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ORIGINAL ARTICLES.

THE OCULAR COMPLICATIONS OF MALARIA.¹

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FÖRSTER,² writing in 1877 concerning the ocular changes in malaria, says:

"If we take into consideration that protracted pernicious malaria may originate the severest disturbances in the entire organism—melanæmia, decided cerebral symptoms, probably dependent upon circulatory disturbance in the central organ of the nervous system, profuse diarrhoea and intestinal hæmorrhage, albuminuria and hæmaturia, irremediable cachexia, hæmorrhagic diathesis, fatty degeneration of the glandular organs of the abdomen, etc.,—then, in some measure, it is remarkable that little is reported concerning the disturbances of the eye, the result of malarial poisoning."

It is the object of the present paper to record the various diseases of the eyes which have been studied either as the direct result of the malarial poison, or which have appeared in association with malarial toxæmia.

Diseases of the Conjunctiva. Intermittent Ophthalmia.—W. F. Norris³ writes:

"Intermittent ophthalmia is but rarely encountered in countries where only a mild form of intermittent fever is present; in fact, it was so rare in Scotland, that Mackenzie, in the earlier editions of his work, denied its existence, but a larger experience enabled him (in 1854) to give three cases. In 1828 and 1829 it was so infrequent in Marburg that Hueter (*Jahrbücher für Chirurgie u. Augenheilkunde*, Berlin, 1828, xii. 271-279) devoted two papers to its study—one of a case of the quotidian type, and the second, of the septan form of the ophthalmia."

Between the years 1838 and 1868 the files of the *Annales d'Oculistique* contain references to ten papers upon this subject. In 1843 J. E. F. Schaepman wrote his thesis⁴ upon intermittent ophthalmia, and described three varieties: 1. Those which appear under the mask of intermittent fever; 2. Those which are only one symptom of intermittent fever; and 3. Those which result from the change in the form of an intermittent fever.

In countries where malaria is prevalent intermittent ophthalmia is common, and may appear simply as a

vascular irritability of the eye, without true inflammation (phlegmasia dolens oculi or ophthalmia nervosa of the older writers); in association with ordinary trigeminal neuralgia, which—as is the case with all neuralgias—may assume a periodic type; as a congestion of the conjunctival vessels, with photophobia and lachrymation, together with malarial neuralgia—incurable until the true nature of the disorder is discovered; or, as Griesenger¹ has said, it may terminate in stationary chronic conjunctivitis, opacity of the cornea, and even atrophy of the bulb.

Wehle² describes among intermittent cases in Hungary a form of ophthalmia characterized by erysipelatous swelling of the lids, studding of conjunctiva with red dots, tumefaction of the ocular conjunctiva, and occasional involvement of the cornea and destruction of vision.

Eulenberg and Landois,³ in a discussion on vasomotor neurosis, refer to intermittent ophthalmia, giving the important literature from Edmonstone's treatise in 1816 to Derby's article in 1865, as a circumscribed affection of the trigeminal filaments supplying the conjunctival vessels arising under the influence of malaria—a vasomotor infection-neurosis.

In the cases reported by Pagenstecher conjunctivitis, sometimes accompanied with paresis of accommodation, was the only symptom of malaria, and formerly was called "febris intermittens larvata."

Finally, an ophthalmia may arise to which, when it is already advanced, intermittent fever may be added. To the latter class, perhaps, should be referred those epidemics of ophthalmia between which and malaria an affinity has been traced. An example of this character is furnished by the study of the epidemic ophthalmia which pervaded South Carolina in the summer and fall of 1882, and which E. Miller ascribed to the influence⁴ of malaria—a position in which he was supported by Rhett, Kollock, of Cheraw, and Munroe, of Marion; but unsupported by Howe, of Columbia; Cowles, of Johnson's, and F. L. Parker, of Charleston.

Diseases of the Cornea. Malarial Keratitis.—The cornea may be involved in a form of inflammation specially dependent upon the malarial poisoning, or

¹ Read by title in the Section of Medicine, of the American Medical Association, Nashville, 1890.

² Graefe u. Saemisch, *Handbuch der gesammten Augenheilkunde*. Bd. vii. p. 176.

³ Pepper's *Encyclopædia of Medicine*, vol. iv.

⁴ For a review see *Annales d'Oculistique*, t. x. p. 46.

¹ *Infectionskrankheiten*, 2. Aufl., 1864, p. 48.

² *Oesterreichische medizinische Wochenschrift*, 1846, No. 16, quoted in *Annales d'Oculistique*, t. xviii. p. 174.

³ *Wiener medizinische Wochenschrift*, No. 72, p. 1140, 1867.

⁴ *Louisville Medical News*, vol. xv.-xvi. p. 177.

become inflamed in a subject of intermittent fever as an associated disease. Thus, long ago, Bürhrlen¹ while discussing intermittent ophthalmia pointed out that keratitis may occur in a malarial individual during the course of the disease, and should be described as "intermittens cum keratite." A vascular keratitis is recorded as an illustration. This influence of the malarial impression upon the course of a keratitis, either because the patient resides in paludal regions or himself is the subject of malaria, is a matter of common observation and stock knowledge, and to such an influence should be accredited the cases of herpes febrilis corneae observed by Godo,² one-third of which he traced to malaria. Chronic interstitial keratitis, either directly malarial or occurring in malarial subjects, has been observed in a number of instances. Arlt³ has recorded eight cases; Levrier⁴ another; more recently the influence of this cachexia in the production of this type of corneal disease has been dwelt upon by Landolt, Poncet, Javal, and others, while Sedan, of Toulon,⁵ among thirty-four cases found malaria in twenty-seven instances.

Keratitis the direct result of malaria, and existing in the form of a superficial lesion, has been known for a long period. Becker⁶ referring to a variety of keratitis after cataract extraction, describes its appearance as identical with that of the painful keratitis following malaria, mentioned by the older writers, but not mentioned in the more modern literature. In this country we are indebted especially to Kipp, of Newark, for a masterly study of malarial keratitis. His first publication appeared in 1880,⁷ and in the *Transactions* of the American Ophthalmological Society for 1889 he gives his most recent results based upon one hundred and twenty observations. In 90 per cent. of the cases the lesion consisted in a "peculiar narrow, serpiginous, superficial ulcer, with lateral offshoots," like the skeleton of veins in a lanceolate leaf, usually accompanied with photophobia and lachrymation, and sometimes ushered in with severe supraorbital neuralgia. This appearance Dr. Kipp formerly considered characteristic, but in five instances it was replaced by a large superficial abrasion of the cornea, while the peculiar appearance just described he has observed in non-malarial subjects. Cases appeared in every month of the year—69 per cent. during June, July, August, September, and October. Dr. Kipp's observations have been repeated and confirmed by

Hotz,¹ H. G. Miller,² and Sutphen.³ Noyes, whose cases were reported by Minor,⁴ for years has been accustomed to observe a form of superficial keratitis as the result of malaria; the characteristic symptoms were exaggerated tenderness of the supraorbital nerve and anæsthesia of the cornea. Van Milligen,⁵ in 1888, described a peculiar form of keratitis, resembling the keratitis dendritica mycotica of Grut, Hock,⁶ and Emmert, as the result of malaria, and characterized by the appearance of a superficial erosion on the temporal border of the cornea or a fungus-like lesion in some other point; local pain, ciliary neuralgia, and anæsthesia of the cornea were associated symptoms. Keratitis bullosa, a disease in which large vesicles form, filled with clear serum and of uncertain origin, in some instances has appeared to have its source in malaria, and Tangeman, of Cincinnati, suspecting this, cured his cases by the administration of quinine.

The practical deduction from these observations evidently is the importance of remembering the possible influence of malaria in corneal inflammation, and in the absence of the characteristic clinical symptoms described by Kipp, Noyes, and Van Milligen, the need of examination of the blood for the corpuscles of Laveran. The remedies indicated in addition to local measures are quinine, arsenic, and eucalyptus.

Diseases of the Iris. *Iritis.*—The development of iritis under the influence of syphilis, rheumatism, gout, gonorrhoea, and in association with tuberculosis and diabetes, would seem to indicate malarial toxæmia as a possible and even likely cause for the same inflammation. Staub⁷ described intermittent iritis, passing on in some instances to intermitting and periodic hypopyon, cured by the influence of quinine. Peunoff,⁸ in an investigation of a large variety of ocular troubles the result of malaria, in rare instances found iritis. Mackenzie⁹ and Quaglino¹⁰ refer to periodic iritis; and modern writers, like Noyes, include malaria among its constitutional causes. It is to be remembered, however, as Gowers¹¹ has pointed out, that pyæmia closely

¹ Chicago Medical Journal and Examiner, vol. xliii. p. 598, 1881.

² Transactions Rhode Island Medical Society, 1882, p. 381.

³ Transactions American Ophthalmological Society, 1889, p. 338.

⁴ American Journal of the Medical Sciences, 1881.

⁵ Centralblatt f. praktische Augenheilkunde, January, 1888.

⁶ For a discussion of these types of keratitis and their etiology see an article entitled "Beitrag zur Kenntniss der furchen Keratitis," by Dr. F. Makrocki, Klin. Monatsbl. f. Augenheilkunde, March, 1890, p. 39.

⁷ Von Ammon's Zeitschr. f. Ophthalmologie, Heidelberg und Leipzig, 1835; quoted by Wiener medizinische Wochenschrift, No. 72, p. 1140, 1867.

⁸ Centralblatt f. praktische Augenheilkunde, 1879.

⁹ Diseases of the Eye.

¹⁰ Annales d'Oculistique, t. 65, p. 129.

¹¹ Medical Ophthalmoscopy, 2d ed. p. 248.

¹ Medicinische Correspondenzblatt des Würtemb. Ae rzt. Vereins, Bd. xxx. No. 35, p. 293.

² Recueil d'Ophtalmologie, March, April, and May, 1880.

³ Klinische Darstellung der Krankheiten des Auges, 1881.

⁴ Thesis, Paris, 1879.

⁵ Recueil d'Ophtalmologie, September, 1887.

⁶ Graefe u. Saemisch, Handbuch, vol. v. p. 350.

⁷ Transactions American Ophthalmological Society, 1880.

simulates intermittent fever, and purulent affections of the eyes (purulent iritis and choroiditis) may arise under its influence and be ascribed inaccurately to malaria.

Scleritis and episcleritis—relapsing affections—no doubt appear in malarial subjects as associated disorders. Some of the reported examples of intermittent ophthalmia appear to have been of their character.

Amblyopia and Amaurosis.—Disturbances of vision during the course of intermittent fever have been observed from the earliest days, many of the recorded cases having been reported in the pre-ophthalmoscopic period. Leber¹ divides the amauroses of malaria into two varieties: typical or intermittent, and stationary amaurosis. In temporary amaurosis the fever usually is of the tertian type, and may be associated with severe nervous symptoms—delirium, coma, aphasia—or the loss of vision begins with the chill, lasts through the fever and subsides with the sweat, as was shown years ago by Kühlbrand and Tott.² Thus Deval³ mentions a case of tertian intermittent with amblyopia after disappearance of the fever which only slowly and partially subsided, and Dutzmann,⁴ a young man with tertian intermittent, violent convulsions, unconsciousness and complete amblyopia without fundus lesions, who was cured with quinine. In larvate intermittents, when the fever is slight or concealed, the amaurosis, according to Himley (quoted by Leber), more usually is monolateral—a point observed by von Störck as long ago as 1759.

Stationary amaurosis from larvate intermittents is more unusual, and may be an amblyopia with exacerbations, either unilateral or bilateral in character. (Leber.) Periodical amblyopia may be associated with spasm of the retinal vessels, as in the cases recorded by Ramorius,⁵ pale disks, shrunken veins and arteries, and simultaneous congestion of the face and ears.

The result of numerous observations is that amblyopia not infrequently complicates malaria and appears in the form of a transient loss of vision, or as complete blindness. Its duration varies from a few moments to several hours, days, or even months, and it disappears under antiperiodic treatment, as Teillais⁶ has said, "with the same quickness with which it came without leaving a single trace of its passage at the bottom of the eye." In most of the amblyopias just referred to, the ophthalmoscopic findings

were negative, or the descriptions are included in the vague terms applied to the retina or optic nerve—"congestion," "hyperæmia," "redder than normal." In the monolateral cases these terms have been at times limited to the affected side, while the other was described as "normal."

Two questions of differential diagnosis are of importance in the consideration of malarial amblyopia—amaurosis from associated kidney disease, and blindness the result of large doses of quinine; examination of the urine should exclude the one, and the peculiarities of the retinal arteries and the behavior of the color-fields the other. Adopting a classification given by Teillais⁷ we may say in regard to malarial amblyopia that it is of three varieties:

1. Amblyopia without lesion due to a special action of the malarial poison on the optic nerve and the retina.

2. Amblyopia in which the lesions are not appreciable with the ordinary means of investigation.

3. Amblyopia with lesions apparent at the bottom of the eye-ground.

It is to the lesions of the latter group to which I now wish to call attention. These consist in œdema of the end of the optic nerve and optic neuritis, optic atrophy, retino-choroiditis, hæmorrhages into the retina and into the vitreous humor.

Malarial Neuritis and Neuro-retinitis.—In 1866 McNamara referred to instances of intermittent hemicrania with neuritis in connection with malaria, and several years later reported⁸ a case of neuro-retinitis, the result of malarial toxæmia in a native Indian, cured by quinine. These cases he believed to be common in that region. Noël Gueneau de Mussy⁹ relates a case of double optic neuritis and hæmorrhages into the retina alleviated by quinine. Galezowski⁴ refers to neuritis; Poncet,³ who observed changes in 10 per cent. of the cases of malarial cachexia in Algeria, beside hæmorrhages found peri-papillary œdema and neuro-retinitis. Jacobi⁶ describes œdema of the papilla in a woman of thirty-four years of age, with quotidian ague and enlarged spleen, who was cured by quinine and iron, and in Peunoff's⁷ extensive list of ocular disorders attributed to malaria, several cases of neuro-retinitis are detailed. Hammond⁸ saw two cases of malaria with optic neuritis and remarkable collections of stellate pigment in the retina. In a recent communication McNamara⁹ reports three cases of neuritis due to malarial poisoning.

¹ Graefe u. Sæmisch, Handbuch, vol. v. p. 950.

² Casper's Wochenschrift f. des gesammten Heilkunde, 1833, II. Nr. 35, and Ibid., 1835, quoted by Leber.

³ Traité de l'Amaurose, Paris, 1851, quoted by Bull in St. Louis Courier of Medicine, vol. 3, 1880, p. 453.

⁴ Wiener medizinische Presse, 1870.

⁵ Annales d'Oculistique, vol. lxxxii. p. 200.

⁶ Annales d'Oculistique, xcv., xcvi. 1886, p. 234.

⁷ Loc. cit.

⁸ Indian Medical Gazette, 5 and 6, 1870-71, p. 28.

⁹ Journal d'Ophthalmologie, 1872.

⁴ Traité Iconographie, p. 190.

⁵ Annales d'Oculistique, May, 1878.

⁶ Von Graefe's Archiv f. Ophthalmologie, Bd. xiv. 1. 154.

⁷ Loc. cit.

⁸ Transactions American Neurological Society, 1875, p. 142.

⁹ British Medical Journal, May 8, 1890.

Hæmorrhages into the retina may occur with neuritis or without other changes. Numerous reports have appeared, prominent among which are those by Peunoff,¹ Fernandez (quoted by Poncet), Poncet,² Karpinsky,³ whose cases happened in southern Russia, in some instances associated with marked fever; and Stephen Mackenzie,⁴ who found in three examples the hæmorrhages especially along the course of the large vessels, and when they faded away shiny white spots marked their position. In our own country a number of communications upon this topic have been published. Thus Edward W. Jones,⁵ of New Orleans, reports five cases of retinal hæmorrhage. In one, a man aged thirty-four, the fever was of the remittent type, and in another there was also unilateral optic neuritis. J. Dickson Bruns,⁶ of New Orleans, describes two examples of hæmorrhages into the retina—the one with fever of the tertian type, and the other in which the chills occurred at first daily, and later every other day. Usually the hæmorrhages are found near the disk, along the course of the larger vessels, as in Mackenzie's cases, sometimes on the disks in the form of fine specks of blood, and occasionally in the macular region assuming unusual shapes; Bruns examined one formed like a "meat-chopper." Amenitsky⁷ reports blindness attributed to embolism of the central artery of the retina in a girl of seventeen, the subject of tertiary intermittent fever; the diagnosis is open to doubt.

Optic Atrophy.—Galezowski⁸ describes optic atrophy with the pernicious forms of malaria; it is rare in the intermittents of temperate climates. Instructive cases have been recorded by McNamara, and in our country by Bull.⁹ (The influence of quinine was excluded.) Edward Jones¹⁰ among twelve cases of retinal disease, the results of malaria, saw only one go on to atrophy. Even when the atrophy is advanced marked improvement under treatment (strychnine and potassium iodide) may take place, as in a remarkable case of recovery of vision after atrophy of the optic nerves consecutive to malaria, reported by Brudenell Carter.¹¹

The *pathology of the retinal and optic nerve changes* in these cases is not settled. The hæmorrhages have been ascribed to pigmentary embolism, although, as Gowers points out, this may be present, according to Mackenzie, in the absence of melanæmia. Poncet¹²

believes the vessels of the choroid may be the seat of emboli of leucocytes, and attributes the hæmorrhages to this condition. According to Lopez y Veitia,¹ the immediate cause of the extravasations of blood is an augmentation of the blood tension, and he believes the hæmorrhages are increased by fresh accessions of fever. H. D. Brunt⁴ thinks the smaller hæmorrhages due to diapedesis, the larger ones to rupture of the finer bloodvessels of the retina. Concerning retinal hæmorrhage and its frequency Brunt³ writes that during the years 1882–1886, 192 cases of malarial fever were treated in the wards of the Charity Hospital in New Orleans, but during the same time only six indubitable cases of malarial hæmorrhage are recorded in the books of the Eye-clinic.

Jacobi⁴ believes a neuritis, not itself intermittent in character, bears no direct relation to malaria. According to him, this depends upon severe recurring hyperæmias of the opticus and retina, separated by such short intervals that the dilated bloodvessels cause cedema and incarceration of the intraocular end of the optic nerve within the scleral ring (according to von Graefe).

McNamara⁵ "inclines to the idea that the inflamed state of the optic papilla is due to something of the nature of a microbe which becomes planted in the affected tissue, and growing there produces ptomaines, which in their turn cause irritation of the tissues, engorgement of the vessels, and the transudation of serum and leucocytes into the retina and optic papilla."

In some instances optic neuritis is secondary to meningitis. Galezowski ascribed the atrophy to pigmentary embolism; in the majority of cases it is consecutive to a neuritis.

It is of prime importance to exclude chronic kidney and hepatic disease before attributing these retinal and optic nerve lesions to miasmatic poison, and in the atrophies the influence of quinine must be eliminated. Bull⁹ has examined 150 cases of malaria, and omitting the instances in which co-existing hepatic and renal disease existed, believes the examples of "degeneration or inflammation of the optic nerve due directly to miasmatic influence" to be infrequent, a position in which he is supported by Kipp.⁷ McNamara, on the contrary, writing of England, thinks the instances more common where malaria prevails than is generally supposed. The writer has examined numerous malarial subjects in Pennsylvania and found only rarely coarse retinal changes.

Lesions in the Vitreous and Choroid.—The lesion of the vitreous which most usually has been recorded

¹ Loc. cit.

² Loc. cit.

³ Aertz. Blatter, No. 373, 1879; Centralblatt f. praktische Augenheilkunde, 1880, p. 84.

⁴ Medical Times and Gazette, 1877.

⁵ Medical Record, June 27, 1885.

⁶ New Orleans Medical and Surgical Journal, vol. x. p. 455.

⁷ Nagel's Jahresbericht, 1886, p. 252.

⁸ Loc. cit.

⁹ American Journal of the Medical Sciences, 1877, p. 413.

¹⁰ Loc. cit.

¹¹ British Medical Journal, January 3, 1886.

¹² Annales d'Oculistique, 95–96, 1886.

¹ Thèse de la Havane, Recueil d'Ophtal., 12, 1888.

² New York Medical Record, July 14, 1888.

³ Loc. cit.

⁴ Loc. cit.

⁵ Loc. cit., British Medical Journal.

⁶ St. Louis Courier of Medicine, vol. iii., 1880, p. 543.

⁷ Transactions Medical Society of New Jersey, 1881.

is hæmorrhage. In one case related by von Kries¹ this occurred in a patient who suffered from ague on the first day after the paroxysm had been arrested by quinine. Levrier² quotes Galezowski as relating an example of periorbital neuralgia with atrophic choroiditis and flocculi in the vitreous, and Peunoff reports choroiditis and vitreous opacities. In this country hæmorrhage into the vitreous has been noted by E. W. Jones,³ and W. W. Seely⁴ records two examples of serous effusion into the vitreous due probably to malaria. In the first case the vitreous was filled with an "impenetrable mist" which gradually cleared in two months. The patient had one severe chill, and the urine was normal. In the second case there was only a gray reflex from the fundus; supra-orbital neuralgia was associated. Brunt⁵ has seen one similar case. The most important communication on vitreous hæmorrhage in cases assumed to be malarial, is from the pen of C. S. Bull.⁶ Seventeen cases are reported in which the hæmorrhages occurred almost always in one, though they also occurred in both eyes, but never simultaneously. All of the patients were over forty years of age, and all the subjects of pronounced malaria contracted in markedly miasmatic regions. Valvular disease of the heart, chronic renal change, rheumatism and gout were excluded. In the majority of the cases the blood was extravasated generally through the vitreous; in a few it was in the posterior part. The hæmorrhages appear to have been due to rupture of choroidal or ciliary vessels, and possibly the vessels of the sheath of the optic nerve during the congestive stage of the malarial attack. After absorption of the blood, which was slow and left behind membranous opacities, areas of atrophic choroiditis were seen in the periphery of the eyeground.

Changes in the Field of Vision.—Malarial amblyopia is always accompanied with more or less restriction of the visual field. A central scotoma may exist, small at first, or large enough to invade the whole field and produce the blindness (Teillais), or contraction of field and amblyopia with each paroxysm. In case of atrophy there is marked contraction, color scotoma (Bull), and color blindness (Peunoff). A remarkable phenomenon is hemianopsia. Peunoff⁷ describes lateral hemianopsia with the approach of fever. Reich⁸ himself had right lateral hemianopsia while suffering from the fever, and I refer by permission to a case under the care

of Dr. Joseph Leidy, Jr., in the wards of the Pennsylvania Hospital in which there was bi-temporal hemianopsia. The corpuscles of Laveran led to a correct diagnosis, and the condition was cured by quinine.

The Pupils and Accommodation.—In some of Pagenstecher's cases of intermittent ophthalmia, paresis of accommodation was an associated symptom, and according to Bull the intermittent forms of visual disturbance probably are due to paralysis of accommodation. Mannhardt¹ reports three examples of paralysis of accommodation in subjects of stubborn quotidian and tertian intermittent (quinine produced a cure), and Stellwag² on the authority of this author places malaria among the causes of this derangement of the functions of the ciliary muscle. Stilling³ reports larvate intermittent fever under the form of supra-orbital and ciliary neuralgia which reflexly brought forth spasm of accommodation.

Various authors have described the pupils as dilated and inactive, or unaffected; the latter when there has been complete blindness, a condition which is analogous to that which is seen in uræmic amaurosis.

Finally, as a functional disturbance, night blindness has been reported by C. Zimmerman⁴ and by Poncet, who says it may be associated with peripapillary oedema.

Paralysis of the external eye muscles has been recorded in a few instances, but must be a rare manifestation. It is not mentioned in Mauthner's *Diagnostik und Therapie der Augenmuskellähmungen*, Wiesbaden, 1889.

Illustrative Cases.—During the last year the writer has examined a large number of cases of acute intermittent fever and chronic malaria without discovering, except in a few instances, serious ocular changes. Practically all of these cases had contracted their intermittents in the climate around Philadelphia—in other words, in regions not noted for types of pernicious fever. In the Eye Dispensary of the University Hospital, and in the wards of the Philadelphia Hospital, a number of cases of keratitis have appeared in malarial subjects, but they did not present the characteristic lesions noted by Kipp, Noyes and Van Milligen. In short, they should be described as "intermittents with keratitis," and not as examples of true malarial keratitis. In two cases there were multiple retinal hæmorrhages, and in one superficial optic neuritis with a single hæmorrhage.

CASE I. Retinal hæmorrhages.—A man, aged thirty-five, a laborer, working on an embankment and subject to much night exposure, was admitted

¹ Archiv f. Ophthalmologie, vol. xxiv., I., p. 159.

² Loc. cit.

³ Loc. cit.

⁴ Transactions American Ophthalmological Society, 1882, p. 345. Ibid. 1885, p. 64.

⁵ Loc. cit.

⁶ New York Medical Record, vol. xxx. p. 617.

⁷ Nagel's Jahresbericht, 1883, p. 301.

⁸ Centralblatt f. praktische Augenheilkunde, 1879.

¹ Klinische Monatsblatt f. Augenheilkunde, 1865.

² Diseases of the Eye, 4th edition, p. 748.

³ Klinische Monatsblatt f. Augenheilkunde, xiii. p. 530.

⁴ Archiv f. Augenheilkunde, Bd. xiv., H. 1.

to the hospital, and without any thorough examination classed as "general debility." An ophthalmoscopic examination revealed in each eye large oval hæmorrhages at the outer side of each disk. The spleen was enlarged. Under anti-malarial treatment the case improved, but disappeared from observation before a cure was obtained. The urine and heart were normal.¹

This case was in all probability an example of true malarial hæmorrhage occurring in a man who had contracted his disease in a miasmatic neighborhood, and in whom the disease had become chronic with associated anæmia.

CASE II. Multiple retinal hæmorrhages, probably malarial in origin.—This patient, a man, aged forty-eight, living in Maryland, was seen in consultation with Dr. J. Madison Taylor, in May, 1888. He had suffered from intermittent fever of the tertian type for ten years, and three times contracted remittent fever. The spleen was enlarged. Two blood-counts made in 1888, at short intervals, yielded 2,800,000 red blood-corpuscles to the cubic millimetre, and later 3,200,000, the hæmoglobin being respectively 28 per cent. and 30 per cent. Subsequent examinations showed improvement in corpuscular richness and corresponding rise in the percentage of hæmoglobin. The heart presented no organic disease; repeated examinations of the urine, the absence of any indications of chronic Bright's disease. In the right eye the cornea was conical; the disk gray, containing a sharp central cup, and on its surface a flame-shaped hemorrhage, while above and to the nasal side there were three round hæmorrhages. In the left eye the disk was also very gray, and up and out from its margin, and down and in likewise, there were two small, round hæmorrhages. The macula contained numerous fine yellowish dots, and several small dot-like hæmorrhages.

This case at first sight led to the suspicion of pernicious anæmia; the gradual improvement, however, under the influence of iron and arsenic disproved this theory, and the anæmia was attributed to the malaria. This patient died subsequently of pneumonia, although before his death there had been marked improvement in the general condition.

CASE III. Superficial optic neuritis; one small retinal hæmorrhage; probable influence of malaria.—This case, a child, aged twelve years, was brought for constant frontal headache and some habit-chorea of the orbicularis. He lives in a malarious district on the banks of a river, and every summer for three years has had chills and fever. His last chill occurred on January 1st of this year. Since this date there have been no chills but numerous attacks of headache. Each optic disk was swollen slightly above the level of the eye-ground (+ 1.5 D.). All edges of the disks were veiled, the nasal sides hidden. The central lymph sheaths were full, white lines extending some distance along the vessels. In the

right eye on the nasal side of the disk along the course of the nasal artery there was an oval, partially absorbed hæmorrhage. The urine was normal, the heart normal, the spleen slightly enlarged, the hæmoglobin 75 per cent., the blood-corpuscles 4,262,500, or, in other words, for the amount of red blood-corpuscles enumerated there was a deficiency of 10 per cent. in hæmoglobin. Repeated examinations of the blood failed to demonstrate the corpuscles of Laveran. This is probably explained by the fact that the child had always been given large doses of quinine up to the date of his first visit, January 23d.

In this case the presence of hypermetropia lent some doubt in regard to the etiology of the headache. The correction of this refraction-error did not control the headaches, which, however, disappeared under the influence of ascending doses of arsenic. The same is also true of the neuritis, which at his last visit, in the latter part of April, was well-nigh dissipated. The neuritis and hæmorrhage probably were due, in spite of the absence of the corpuscles of Laveran, to malaria. The history is perfectly clear; all organs were normal, and anti-malarial treatment effected an improvement. It is, however, equally true that hypermetropia is capable of producing superficial neuritis and congestion of the end of the optic nerve, and, furthermore, as this was corrected, it may have aided in the subsidence of the neuritis, as it also may have been the cause of its appearance.

In conclusion malaria may originate:

1. An ophthalmia of the intermittent type, which sometimes replaces the ordinary manifestations of the disease.
2. A form of keratitis, properly described as "malarial keratitis," and quite distinct from those types of corneal inflammation which are simply associated with intermittent fever.
3. Various functional ocular disturbances, amblyopia, paresis of accommodation, changes in the field of vision, even hemianopsia and night blindness.
4. Gross changes in the interior of the eye, optic neuritis, optic atrophy, retinal hæmorrhages, and hæmorrhage into the vitreous.

In the event of the appearance of any of the disorders of the fourth class it is necessary before ascribing it to malaria to eliminate rheumatism, syphilis, chronic Bright's disease, and chronic hepatitis; and, in so far as atrophies are concerned, the influence of quinine. In any doubtful case, especially in larvate forms of intermittents, and, indeed, in all cases a careful examination of the blood should be made with the hope of determining the presence or absence of the corpuscles of Laveran. It remains to be shown what relation the character and number of these bodies bear to ocular diseases attributed to malaria.

¹ Transactions County Medical Society of Philadelphia, April, 1890.

**THE RECONSTRUCTION OF DEFORMED NOSES
BY GRAFTING A PORTION OF THE FINGER.**

BY JAMES P. PARKER, M.D.,
OF KANSAS CITY, MO.

As civilization advances the demand for an unblemished appearance increases, and the number of surgeons who advise their patients to bear the affliction of an ugly nose, deformed eyelid, ear, or lip, with becoming grace and humility grows smaller. The replacing of a lip, eyelid, or nose, or any part thereof was not attempted until after the enthusiastic Tagliacozzi reported his experiments of grafting the cock's spur into the comb and the end of the rat's tail into its back. We may say that it was after these observations of Tagliacozzi that surgeons began to restore lost parts and to relieve deformities by operation. It was not until the eighteenth century that operations for harelip and cleft palate were practised with good results. During the last decade wonderful advances and grand achievements have been recorded in this branch of surgery, but we cannot think the end has been nearly reached. Grafting for the restoration of lost tissues and relief of deformities is yet in its infancy. The only special treatise on the cosmetic surgery of the nose that has been published is the excellent little book by Dr. John B. Roberts, of Philadelphia, in which the operation I offer is not described, and I have been unable to find mention of such an operation in any work on surgery. Rhinoplastic surgery is seldom dwelt on in current medical literature. I therefore ask the attention of physicians to one of the methods to which I have resorted for the reconstruction and cure of the great deformity of the nose resulting from a destruction of the nasal bones and the bony septum by ulceration and necrosis, which causes a sinking-in of the entire upper portion of the nose.

After trying, without satisfactory results, the different operations commonly resorted to for relief of the deformity, I began to look for something better. Every surgeon who has attempted to relieve the condition has appreciated that the great difficulty is to preserve the prominence and symmetry of the nasal bridge, a thing almost impossible to do with muscular or cutaneous tissue alone. If the cartilage or nasal bones be entirely absent, they must be replaced by cartilaginous or bony tissue from the patient or from one of the lower animals, in order to preserve the prominence of the nose. It occurred to me that if I could get a ridge-pole, as it were, under the muscular and cutaneous tissue, I might succeed in holding up the bridge. The phalanges of the little finger of the patient's left hand seemed the most convenient for the purpose, less objectionable to the patient than the tissues of a lower animal, and sufficient to restore the lost or atrophied tissues. To determine the best method of making the attachment

of the finger requires much care and thoughtful consideration in each case. The operator must be governed by the extent of the deformity, size and length of nose and finger, and the position in which the hand can best be confined. The following case will serve to illustrate the operation:

J. C. G., aged thirty-five years, a cattle dealer, applied to me, on December 6, 1889, to have the lachrymal ducts dilated, as he was suffering from dacryo-cystitis and, by extension of the inflammation, a severe conjunctivitis.

On examination I found that the nasal bones and the bony septum had been destroyed by ulceration and necrosis. The bridge was deeply sunken. The external tissues had atrophied, leaving a rounded elevation representing the original bony bridge, with the unchanged nasal tip thus thrown into great prominence. He stated that he contracted syphilis during his early manhood. After explaining to him the difficulty of keeping open the nasal ducts, with the nose in its sunken and deformed condition, I suggested an operation for relieving the deformity, and at the same time of preserving the patency of the tear-ducts. To this he readily consented, as his eye-trouble was very annoying.

On January 14, 1890, the patient's nasal passages were thoroughly cleansed by syringing with an alkaline solution, followed by a 1-to-1000 solution of corrosive sublimate. Ether was administered, and the posterior nares plugged. I made a linear incision commencing upon the bone at the root of the nose, in the median line, and carried it well down to the prominent tip, cutting through into the nostril, opening up and elevating the parts with the iron handle of a large scalpel. (It requires great force to elevate the dense tissues at the bridge, even after they are cut through.) I then removed the nail and matrix of the little finger of his left hand, and dissected off the integument from the end of the dorsal and palmar surfaces to the upper third of the second phalanx. Having found, by measuring the nasal wound, the exact length of the graft required, I shaped the finger to fit the wound. The epidermis was removed from that part of the finger resting upon the septum. The hæmorrhage having been controlled, the prepared finger was placed in the wound with the tip of the first phalanx resting upon the bone at the root of the nose, the outer side of the finger being placed anteriorly to give the organ as natural a contour as possible. The thumb of the same hand was placed under the chin, with the first, second, and third fingers resting on the left cheek. The finger-graft was secured in place by silver-wire sutures; the edges of the skin and integument of the nose and finger were brought together and accurately coaptated by means of silk sutures. The lower canaliculi being slit open, I passed a No. 6 Bowman's lachrymal probe into the nasal ducts, on the removal of which I inserted a silver style in each duct. By means of a catheter, I placed a rubber condom in each nostril, carrying it well back into the posterior nares. Each condom was then filled with warm water by means of a syringe, tied to retain the water, and the redundant

rubber was cut off. These dilated bags conformed to all parts of the nostril, and acted as a water-bed to support the parts and to prevent hæmorrhage. The outer wound was dressed with corrosive sublimate gauze. The cheek was padded under the fingers with absorbent wool. The hand and arm were secured in position by means of a rubber bandage, and the patient put to bed. His temperature went up to 101° on the following day, but never higher. The rubber bags were renewed daily for five days, and the nostrils washed out with a solution of boric acid in camphor water. On the fifth day the bandage, dressing, rubber bags, and sutures were removed, primary union having been obtained. The finger was amputated at the second joint, leaving enough of the integument to cover the lower end of the bone. The edges of the skin of the new nose were brought together by silk sutures and dressed with flexible collodion, which remained six days, when it was moistened with alcohol and ether and removed, and the sutures were taken out, leaving the wound united throughout by first intention. The bridge then appeared too high, but some contraction followed, which reduced it to a satisfactory size. The septum and phalanx had formed a rigid union, and the skin of the finger that was placed in the nostrils became normal mucous membrane. The patient left me on April 4th, wearing eye-glasses instead of his old spectacles. He writes me that he "would cheerfully give up two fingers rather than have the old flat nose again."

While deformities about the face may not directly impair an individual's health, the burdens inflicted by the remarks of friends and the jeers of enemies may cause mental aberration and distress. Every effort consistent with safety should be made by the surgeon to relieve such deformities. Stricture of the lachrymal duct is frequent in individuals with flat or sunken noses; therefore, those of us who practise ophthalmic surgery see more of such deformities than the general surgeon, but the supply is sufficient for all.

SOME POINTS IN THE NATURAL HISTORY OF ENTERIC OR TYPHOID FEVER.¹

BY JAMES E. REEVES, M.D.,
OF CHATTANOOGA, TENN.

FROM the remotest period down to the present time medical history gives no era when the world was entirely exempt from epidemic contagious fevers. Indeed, they have been universal; sometimes prevailing in a particular neighborhood and only attacking a few individuals; at other times spreading amongst vast multitudes and cutting down with a wide swath of death and desolation all ages and ranks of the population. With whatever scope of smiting visitation, whether epidemic and ravaging a continent or confined to a city, a

hamlet, or rural hut, they have never been wholly extinct; but their specific germs have lurked a fatal spark among the embers of society, ready to burst forth into a consuming blaze at every favorable breeze.

An Unstable Nomenclature.—Much of the confusion which has existed concerning the natural history of some of the more prevalent specific pyrexial disease has, no doubt, been due to an unstable, and perhaps sometimes unmeaning nomenclature. This reflection, I think, is allowable in connection with the disease under consideration, for even since the beginning of the present century at least a dozen different names have been proposed and employed by systematic authorities.

Following the example of the late Professor George B. Wood, whose memory I shall always cherish, because of his goodness to a poor young man in the backwoods of Virginia, I have chosen the name employed in the title, and in recording my observations shall exclude all unnecessary reference to both the literary history and the etiology of the disease, thus restricting the measure of my self-imposed undertaking to a sincere endeavor to present a true or natural picture of enteric or typhoid fever as I have seen and studied it by the light of nearly forty years' experience—alike in sparsely settled country districts, in village, town, and city; and when influenced neither by crowd-poison, medical treatment, nor the impress of a particular idiosyncrasy.

The name *typhoid fever* was given by Louis in ignorance of a part of the ground, for he did not know, certainly, that another fever existed which ought to be called *typhus*, and in this uncertainty he named the disease *typhoid*, so as to convey, at any rate, the idea of analogy, if not identity, with what had previously been called typhus. In a letter addressed to me, in 1859, Professor Wood said:

"Now that the fact is recognized that these—typhus and typhoid—are two wholly distinct diseases, it seems to me quite unphilosophical to give to one of them a name from its supposed resemblance to the other. We say *varioid* very properly because the affection so called is a modification of *variola*, and depends on the same cause; but the typhoid is not a modification of typhus, and depends on a different cause. It is true that in some cases, and in certain symptoms, it is like typhus; but scarcely more than it is, in other instances, like miasmatic remittent. It is certainly, I think, not more like typhus than roseola is like *scarlatina*; and yet we do not call the former *scarlatinoid*, or the latter *roseoid*. Besides, the word typhoid has before been applied to a state occurring in numerous febrile diseases resembling typhus; as, a typhoid state of pneumonia, dysentery, bilious fever, etc., and its application to any one disease at present may lead to confusion, as, in fact, it has often led, in the mind of the learner. The name enteric fever is unobjectionable, and will, I think, ultimately triumph, because it merely indicates that the intestinal affection is characteristic, as in the case of smallpox, which we name from the eruption."

¹ Read before the Association of American Physicians, May 13, 1890.

Not a New Disease.—Belief in the spontaneous origin of the disease has greatly retarded the discovery and general diffusion of correct knowledge on the subject; for, by parity of reasoning, such faith is without substantial support when the question is studied with the life-history of the human race. On the other hand, the doctrine of permanency of original types of contagious diseases has, probably, as remote antiquity for its origin, as stable a foundation for all future time, and as many unanswerable arguments in its support as the doctrine of the permanency of the different types of the human race—each type with its entirely different capacities, physical and mental, and known to have existed for at least five thousand years, and to have been the same at that long-ago period as at this moment; retaining its specific characteristics through every variety of circumstance, climate, and condition.

Now and then fortuitous circumstances may, indeed, have produced a hybrid; but such product could no more have given origin to a distinct and permanent species than a European can be changed into a Bushman, or naked black Hottentot savages into Bacons and Shakespeares.

And thus, no doubt, through a long line of successive ages has enteric fever descended without change of its original or essential characteristics, and will continue to afflict humanity in all situations where are congregated favorable atmospheric, terrene, civic, and domiciliary conditions for the growth and multiplication of its specific germ or contagium, so long as disease and death shall compass the earth.

Epidemic Visitation.—Epidemics do not prevail at all times; therefore, some special predisposing circumstance or influence must be present and lend its aid to produce widespread visitation. The contagion of measles, scarlet fever, diphtheria, whooping-cough, or of smallpox, like that of enteric or typhoid fever, is probably never wholly extinct in any country where these diseases have once prevailed; yet their epidemic prevalence only occurs in uncertain cycles or during particular seasons. To determine why epidemics rise and spread in some years so much more generally or widely than in others, is one of the most interesting points in medical physics; but, unfortunately, no satisfactory answer has yet been given to this question, and, while the phenomenon cannot be explained, we must be content in our ignorance to refer it to the influence of what was called by Sydenham and the older physicians, "the medical constitution of the air." Precisely the same uncertainty occurs with the crops; this year luxuriant growth and an abundant harvest; next year a general or partial failure; but the seed, under all modifying or controlling

influences of growth and multiplication, remains the same in quality. In other words, the crop may vary as to the *quantity* or abundance of the harvest, but the specific *quality* is unchanged under all conditions.

Again, some soils are unsuited for the growth of certain grains. For example, Indian corn does not grow to perfection in Ireland, while wheat, rye, oats and barley in that country come to maturity and yield the husbandman a successful harvest. The same is true of certain localities concerning the prevalence of enteric or typhoid fever, also of diphtheria and scarlet fever, as I shall show on a subsequent page.

Definitive Elements.—Enteric or typhoid fever may be formulated thus: An acute contagious febrile affection derived from an antecedent case of the disease and depending for its communication from person to person upon the presence of a specific microorganism, which is believed to be of well-known morphological characteristics—a *bacillus*—and which can be cultivated outside of the human body. The disease prevails less frequently in tropical and sub-topical countries than in the temperate zone, is both endemic and epidemic in its visitations; attacks, preferably, young persons and those in middle life; is of long duration, but varying between ten and forty days *beyond* the *prodromic* period, which may cover from one to ten or even twelve days. There is profuse diarrhoea, or, at least, a relaxed state of the bowels, with "pea-soup," or "ochre-colored" stools; and at all stages a marked susceptibility to the action of laxative medicine; intestinal hæmorrhage in many cases, and in a few perforation of the bowels; epistaxis, either slight or profuse; tympanites, with gurgling produced by pressure over the ileo-cæcal valve; dulness of hearing, with mental hebetude, or morbid vigilance; headache, disappearing during the second week; delirium, either mild or violent, with *subsultus tendinum*; rose-colored lenticular eruption during the second week, coming out in crops and disappearing in the same order; fever-curve showing steady elevation of from one to two degrees in the evening with a fall of the same number of degrees in the morning for the first four or six days, and unlike the curve of any other acute febrile or inflammatory disorder; cough and bronchial râles; singular prostration of muscular strength; early heart-failure and a dicrotous pulse. The tongue soon becomes dry, and shows, in grave cases, a brown stripe in the middle, with *sordes* on the teeth and gums; in fatal cases, death occurs during the third or fourth week, with the constant and characteristic lesion of the small intestine involving Peyer's glands; and with enlargement of the spleen. Convalescence is tedious; true relapse is not infrequent, and the dis-

ease affords as perfect immunity from subsequent attack as does scarlet fever or smallpox.

Partial History in Virginia.—Soon after my start in medical practice in Northwest Virginia—now West Virginia—in 1850, I encountered the most virulent and widespread visitation of enteric or typhoid fever it has been my fortune to witness, and I have read nothing in medical history of its epidemic prevalence and fatality, in this country, at least, which exceeded the ravages to which I allude. In thirteen adjoining counties the disease pursued its fearful march without respect to age, sex, or domiciliary condition. In fact, there was scarcely a locality in all that elevated or mountainous country which was not visited and scourged. The towns and villages did not suffer more severely than rural districts, and so varied was the gravity—in some cases, so mild or so slow and tedious; in others, so malignant and rapidly fatal—that the disease received different names to characterize its severity and fatality. In some localities it was given the name of a well-known family that had been swept off by it; in others, in which from the beginning the cases were malignant and quickly fatal, it was called the *Black Tongue*. There was such firm and general belief in its contagious character, that sufficient nurses for the sick could not always be secured, and from this cause, in many instances, the most dire results followed.

I remember some poor families who were thus afflicted and distressed, and when death came to their households they were compelled to put away with their own hands, for want of neighborly assistance, the bodies of their dead.

In other instances, because of the frightful mortality even when the cases were under the treatment of the most experienced physicians, faith in the power of medicines to do good in the disease was lost, and thus the *vis medicatrix nature* was left alone to battle with the pestilence. In these examples it appeared, at first thought, that the sick did as well as those who had the diligent service of their physicians, hence the opinion prevailed in some localities that patients were better off without medicine: in plainer words, "without a doctor." Again and again had I the opportunity during that epidemic of observing the march of symptoms where nothing was done for the sick other than the administration of warm teas, plenty of cool water, and a simple diet of milk and bread. But such management was not invariably successful in conducting the patient to safe convalescence; indeed, it was really unsuccessful, but the deaths were charged to the "will of God!"

It was by such impressive lessons at the very threshold of my experience in practice that I formed my acquaintance with the disease, and became assured of the value of the great truth that "vio-

lence in therapeutics is never justifiable when moderation is adequate to the same good end." And this is the foundation on which, year after year since that time, I have laid my observations, and builded the confidence which brings me with a fresh offering on some points in the natural history of enteric or typhoid fever.

Forms of the Disease.—In my studies I have been naturally led to recognize *three forms*—the simple, or mild; the intermediate; and the malignant, including the fatal—rather than a division of stages by weeks; and I think this arrangement fully warranted by the clinical history. It may be extremely difficult, in some instances, to say just where the distinguishing or dividing line should be drawn, so very gradual is the transition from one form into the other; but in the large majority of cases there is little difficulty in recognizing it.

Incubation.—The period of incubation, or the length of time between the date of the exposure to and inception of the specific poison, and the first manifestations of the disease, is as yet unknown, because the precise date of infection can rarely be ascertained; but its duration is, probably, in most cases about two weeks. Instances, however, have been given where the disease followed immediately, or within a day or two, after exposure.

Mode of Access.—The initial symptoms or mode of access may vary considerably. In a few instances, there are no premonitions; in others the formative period may be extended from two to six, eight, ten, or even twelve days; and these differences may occur without foreshadowing the exact type of the fully developed disease.

As showing the suddenness of attack in some instances, I give the case of Mr. W., a young lawyer, who, while engaged in defending a client indicted for a felony, and when reading the climax of his argument was so completely dazed for the space of half a minute or more that he stood motionless and speechless, staring at the judge. His long pause soon attracted general attention in the court-room; but just at the moment of greatest surprise at his conduct, he came to himself, connected his speech with the word at which he had left off, and went on to its conclusion without further embarrassment either of thought or speech. When he went into the court-house that morning he was in his usual good health; when he left it that afternoon to go to his home, not far off, he felt physically unwell, and mentally oppressed with the weight of some impending dreadful calamity. Feeling confident that he was about to become dangerously sick he at once prepared his will and then went to bed. Within the first week of his illness he became delirious, and rapidly passed into the gravest form of the disease from which, six weeks later, he barely escaped with his life.

Entirely the opposite, in mode of access, to the case above given, was that of Mr. T. G., aged thirty-six years, clerk of the county court, who drooped for two weeks before finding himself unable to pursue his accustomed business, and confining himself to his house. The next three weeks he arose every morning, dressed as usual, and spent the day in reading, writing, or other light occupation to while away the weary time; resting and napping on the sofa, as his inclination prompted. At the expiration of this period I was hastily called early one morning to learn that a short time before my arrival he had been suddenly seized with severe pain in the abdomen just after rising from his bed and while dressing. His countenance was pinched, and pale as death, and he died within the next thirty hours from perforation of the bowels.

Between these wide extremes the *prodromic* period may be as varied as there are days in the limits; but, as a rule, the disease is fully developed by the fourth or fifth day from the time the first feeling of *malaise* is experienced. This declaration is based on the observation of 130 consecutive cases in which I carefully endeavored to ascertain this and other not less important points concerning the disease. Headache and backache—frequently accompanied with slight nausea—start the clinical history. The pain in the head is usually referred to the occiput, but in many cases the entire head aches; while backache extends from the root of the neck to the coccyx. There is a feeling of vertigo, and both mental and bodily languor are plainly manifested. The appetite is impaired, the tongue furred, and the mouth pasty, with offensive breath, and unnatural thirst. A shivery feeling now and then comes over the surface, alternating with flushes of heat; the pulse quickens, usually to ninety or one hundred in the minute; sleep is interrupted by an evening exacerbation of febrile excitement, and the patient awakens without feeling refreshed; the urine is somewhat scanty and high-colored and the bowels are either simply relaxed or there is free diarrhoea, in either case accompanied with a sensation of increasing fulness of the stomach.

Hour after hour, or day after day, all these ill feelings become more pronounced and distressing, when, at last, a sensation of chilliness more severe and prolonged is felt, with an aggravation of the headache and backache, and the patient now willingly goes to bed to take on and pass through one or the other of the forms of the disease classified on a preceding page.

The Mild Form.—Sixty-four of the 130 cases above referred to were of the mild form, and a majority of them terminated in convalescence between the thirteenth and eighteenth day—the range for the

whole number being from nine to twenty-five days.

In this class of cases, following the exacerbation of symptoms which completes the measure of the *formative stage* and ushers in the fully developed disease, the pulse becomes more frequent, say ninety or one hundred and five in the minute; there is increased heat of skin, the temperature gradually rising from one to two degrees higher in the evening than in the morning for four or six days, at the end of which time the range is between 101° and 104° Fahr. in the evening, with a fall in the morning of from one to two degrees. With the steady rise of temperature respiration becomes more hurried, and slight cough sets in and is accompanied with quite free expectoration toward the close of the fever. The headache continues from five to ten days, and when it ceases is usually lost in the obtuseness or drowsiness which is such a common trait during the second week of the disease. There is throbbing of the temples; the face is flushed, and toward evening, when the fever is highest, purple spots appear on the cheeks—first upon one cheek and then on the other; or the nose may present the same livid color and a swollen appearance. The tongue may be coated so thinly as scarcely to be called coated, or covered with a thick white or yellowish fur, thickest at the middle and occasionally dotted with aphthous-looking specks; and it is moist when the patient is not sleeping. As its tip and edge the coating loses itself, leaving the mucous membrane clean, bright, and shining. In many cases the fur disappears in large patches, giving the appearance of loss of the mucous membrane on such places. If *malaria* complicates the case, the tongue is broad, flabby, and presents a creamy coating; otherwise it is not changed in size, does not assume the pointed shape, nor show the brown stripe along its middle, so common in the graver forms of the disease; and it does not tremble when protruded. The abdomen is tumid, tender, and gives a gurgling sound from the right iliac fossa when deep pressure is made over this region; wandering pains in the stomach and bowels may be complained of, accompanied with nausea and occasionally free vomiting. There is loss of appetite, if not entire disgust for food; thirst is excessive, the patient calling for water every few minutes; the bowels incline to looseness and sometimes there is free diarrhoea; the discharges are of the "pea-soup" variety, flocculent, and of a peculiar and very offensive odor. The urine is diminished, highly colored and turbid. Sleep is not refreshing, and the sleeping hours are disturbed by unpleasant dreams. A very common mental condition during sleep is the impression that the body is severed in pieces, and much worry is occasioned by the unsuccessful efforts to reunite the fragments; or, if not

this distress, some other imaginary accident befalls the patient, who, in his efforts to extricate himself, suddenly wakes and manifests confusion as to his identity and whereabouts.

Dulness of hearing is one of the most unvarying conditions in the disease. Epistaxis is also exceedingly common, and often is repeated several times during the first two weeks. The rose-colored lenticular eruption is usually present. Indeed, I have seldom failed to find it at some stage of the disease—generally between the seventh and fifteenth day. In my experience, it has been the rule to discover the largest patches of the eruption in cases which were least troubled with profuse diarrhoea. In other words, it has seemed to me that the cases with the least intestinal alteration are those in which the eruption is most profuse. Sometimes I have seen the patient spotted from head to foot; in other instances the eruption was principally confined to the chest, abdomen, and inner part of the thighs; or showed itself on the fingers and toes, while but few spots could be found on the trunk. Again, I have frequently seen it profuse on the back, and I am inclined to believe that it occupies this part of the surface oftener than is generally known, for the reason that it is not so conveniently sought for as when upon the abdomen, chest, and extremities. Of the vesicular eruption called *sudamina*, I have but this to say: I have seen it in very few instances, all of which were in cases of the form of the disease next to be described, and preceded by profuse perspiration. Finally, there are few cases of enteric or typhoid fever in which enlargement of the spleen may not be discovered.

Amelioration of these symptoms, shown by lower temperature, relaxed and gently perspiring skin, refreshing sleep, cleaning tongue, relish for food and diminished thirst, less frequent and more consistent stools, increased secretion of urine, soft and flattened abdomen, and by brighter countenance but with marked shrinking of the features, is the pleasing warrant of Nature's triumph, and that convalescence has been reached. Yet, such a happy termination may be suddenly thwarted by an aggravation of all the symptoms and the patient placed in greater danger than before; or he may suffer from a true relapse—the cause of which may be impossible to determine—and go over again, and through great dangers, the road he has just travelled. And thus the case may run a mild course throughout or take on at the beginning of the illness the graver symptoms I have distinguished as belonging to the intermediate form.

The Intermediate Form.—In this class there are but few symptoms to be recited that have not already been included in the description of the mild form. Thirty-two of the 130 cases presented, either at the

beginning of the attack or during the second week, the exacerbation of symptoms characteristic of this form. With the same variable period of incubation and difference in mode of access, the febrile exacerbations are more prolonged and followed less frequently by moisture of the skin. The temperature rises gradually to $104\frac{1}{2}^{\circ}$ or 105° in the evening and falls not more than a degree or two in the morning. In other words, the high temperature is more constant at all hours of the day and covers a longer period. The pulse also is much accelerated, and soon becomes dicrotous because of the weak heart; the tongue takes on a thicker and darker coating except at the tip and edge, where it is red and shining, and it presents also a dark-brown stripe down the middle. Its surface is dry and concave, the edge thin and apparently contracted, the tongue resembling somewhat in form the bowl of a tablespoon with its point bluntly rounded, and cracked. When told to show his tongue the patient is slow in comprehending the request, and the effort is a trembling one, showing blunted sensibility and grave systemic involvement. At the same time *sordes* begin to form on the teeth, gums, and lips, and the angles of the mouth are cracked and bleeding. Somnolence becomes more and more profound as the case advances toward the crisis (except in the few instances where, instead, morbid vigilance is present); the countenance is dusky, and the mind and senses greatly blunted. In many cases the dulness of hearing is so extreme that it is with difficulty that the patient can be aroused and his attention secured.

Wandering of the mind, at first noticeable only at night—especially during the second week of the fever—is now present at all times in the majority of cases. The patient sees the bedposts transformed into disagreeable personages who have taken their position at the foot of his bed to annoy and insult him by their grotesque performances; and under this provocation he starts up in anger to drive them from his presence, when the physical effort thus put forth dispels the illusion, and he falls back upon his pillow wondering how it was possible he could have been so much mistaken. Soon, however, his Quixotic sally is repeated, and in that way he goes on day after day and night after night, sleeping, dreaming, and wandering, except when his attention is rationally engaged.

In this condition, notwithstanding the continued high temperature and dry and parched tongue, the patient does not ask for cooling drinks; in fact, he has now become to a great degree insensible to his natural wants, for when his bowels are moved the disposition to empty them is not felt until just before the discharge takes place, and in the hurry to get him on the bed-pan, the sheets and other bed-clothing are frequently soiled. The same obtuseness

sometimes permits the bladder to become greatly distended before the desire arouses the patient to the necessity of emptying it. Diarrhoea, either mild or profuse, is always present—I mean liquid stools—and the frequency of the discharges from the bowels governs, usually, the extent of meteorism. In other words, if diarrhoea is profuse, there will be in the same proportion extensive tympany and abdominal tenderness. In many cases the diarrhoea does not exceed more than two or three stools in the course of twenty-four hours; but it is more common for the number to reach a half-dozen in that time. As a rule, the stools are darker and far more offensive than in the mild form of the disease, and they are often attended with sharp pain about the umbilicus. Now and then they are bloody; but the intestinal hæmorrhage is not so extensive as in cases of the malignant form.

The urine, passed in smaller quantities, is deeply colored, and often voided with much difficulty. Epistaxis may be so frequent and profuse as to put the patient in great jeopardy. The smaller number of rose-colored spots in this form of the disease has already been stated; and it is also unnecessary to repeat what I have said concerning the presence of sudamina. Great prostration of muscular strength is an invariable condition, and in a vast majority of cases, *subsultus tendinum* is present. It is in this form that we find, very often, troublesome cough and sputa streaked with blood.

And thus the intermediate form may go on undetermined for a few days or for many days, flattering the physician at one time with the approach of convalescence, at another time exciting his deepest anxiety. At the close of the second week, or about the beginning of the third week, it is not at all uncommon to find that a great improvement in the symptoms has taken place quite suddenly; so much so that the attending physician may find that since his visit the day before the tongue has become moist and has cleaned a little, the countenance brighter, and in every other particular a correspondingly happy change, when, as suddenly, and without apparent cause, the patient becomes worse than at any previous time. This unfavorable turn of the symptoms may continue but a few days before convalescence is reached, or it may send the patient into the gravest form of the disease, now to be described.

The Malignant Form, including the Fatal.—Enteric or typhoid fever may assume the malignant form in the beginning of the attack; but this is not generally the clinical history, for in the majority of cases it is preceded for a longer or shorter period by one or the other of the milder forms. For example, of the 130 cases to which I have before referred, and which in part furnish the basis for my

positive opinions on this and other equally important points, 25 cases passed through the milder gradations, with variable duration, before reaching this form. So, in order to present a continuous and faithful description of the disease from the moment of development to its termination, it is necessary to go back to the point at which I completed the description of the *intermediate form*, and then to proceed with the graver assemblage of symptoms to the end.

After the exacerbation of symptoms which marks this form of the disease, the progress is usually rapid to the final termination. Prostration of strength is an ever-present condition. The patient is now rarely found on his side, for he has not sufficient strength to maintain that position and must lie on his back, with a disposition to slip down in the bed. The pulse is frequent and feeble; there is constant twitching of the tendons of the wrists, and sometimes the whole body is in constant tremor from muscular twitching, to such a degree in some cases that even the bed-clothing is in constant wave-like movement, or if one sit on the bed-rail a trembling sensation is distinctly perceived. The voice becomes changed; so feeble in some cases that it can scarcely be raised above a whisper; in others the articulation is so imperfect that all attempts at conversation amount to little more than a trembling jargon. The tongue takes on a thicker and black coating, and all efforts to protrude it are slow, trembling, and uncertain; and when protruded, if the patient is not otherwise directed he will probably leave it exposed. With this state of the tongue and with the general insensibility, deglutition is often interfered with and food and drinks are taken with much difficulty.

The temperature of the surface may be uniform or unequal; the head and trunk hot and dry while the extremities are cool, or the face and hands sweat freely while other parts of the body are dry. In every case with this grave condition more or less cough is present, accompanied at one time with free expectoration, at another nothing but frothy, sticky mucus is expelled; loud râles are heard, breathing becomes hurried and occasionally irregular or jerking. The temperature line shows little variation between the extremes of evening rise and morning fall; is fitful and undulatory at all times. The condition of the abdomen and state of the bowels are also fair measures of the seriousness of the case; the tympany makes a convex surface from the ensiform cartilage to the pubes, and when pressure is made the abdominal wall seems thin, hard, and resisting "as though made of pasteboard," and scattered here and there over its surface are a few *rose-colored* spots.

The stools are very offensive, of a dark color, and so sticky that the bed-pan or chamber-pot is emptied

and cleansed with difficulty. In color and consistence the discharges resemble dark-brown paint; but when slight hæmorrhage takes place and the blood is retained for a few hours, the discharges are black and tarry and exhale a most sickening odor. It is always in this form of the disease that the most frequent and profuse hæmorrhages take place. In many cases the blood discharged from the bowels is red and but little changed; in others it is dark and disintegrated. Several times I have seen the usual sized chamber-pot half filled at a sitting, and in one case the patient fainted and fell from his chair to the floor, and was put back in bed almost lifeless. In this case hæmorrhage succeeded hæmorrhage until the eighth day from the first bloody discharge, when he died. Eighteen of the 34 cases, before referred to, suffered hæmorrhage from the bowels, and of these 8 were fatal. In this form of the disease, I have seen the patient bleed from the nose, from the gums, from the bowels, from the bladder, and from the petechiæ.

The urinary secretion shows much alteration of character. It is scanty and dark as lye, and when there is hæmorrhage from the bladder small particles of coagulated blood are deposited on the bottom of the vessel. The urine may be retained, either with or without admixture of blood, requiring repeated use of the catheter. Delirium, so common in this form of the disease, may be either mild, violent, or low and muttering; the patient picks at the bed-clothing, or reaches out his hand to catch some imaginary object. In a few instances I have seen the delirium strictly monomaniacal. Involuntary discharges both of urine and fæces frequently take place and then there arises from the patient's body a most nauseating odor. In addition to the above described conditions, the skin may break on parts most exposed to pressure, as the sacrum, hips, and shoulders, which is followed by sloughing. All these show vitiated constitutional powers.

Finally, when the case is to end in recovery there is improvement of all the symptoms, and the patient passes, sometimes quickly and at other times slowly, through convalescence to health. But if death is to be the end, it may come in different ways, according to the lead of symptoms. If by coma—the most frequent mode of death in enteric or typhoid fever—the low muttering delirium from which the patient could at first be aroused, gradually becomes more and more profound until complete insensibility is reached; the jaw falls by its own weight and the mouth is open, the lips tremble, the muscles of the face twitch, the eyelids are half closed, the balls upturned and roll from canthus to canthus; petechiæ and vibices make their appearance on various parts of the surface; the parotids swell and

may suppurate; the pulse beats so rapidly that it can scarcely be counted; the breathing is rapid, and automatic efforts are made to expel the secretions which choke the lungs and rattle in the throat, a cold, clammy sweat breaks out, the extremities become cold, there is a final struggle, and Death has won the mortal victory! In fewer instances the fatal result is reached by almost imperceptible degrees; from first to last the mind remains unclouded, and the patient passes away without a struggle.

Thus I have completed the description of a case either *mild* throughout, or having been mild for a longer or shorter time, passing into the *intermediate* form, then either convalescing or passing into the *malignant* form.

Of the 34 cases of this form, 9 assumed this character at the beginning of the fully developed disease, 6 of whom complained of feeling out of health for three days previous to taking to their beds; the remaining three retired as usual and in good health to awaken next morning with headache, sick stomach and vomiting, a chill, and then fever. In all of these cases the mind and senses were quickly involved, as shown by aversion to light and sound, morbid vigilance, confusion of ideas, followed as early as the second or third day by active delirium, which continued until lost in *coma*. After such beginning, a case proceeds as above described to its final termination.

Supplemental and Emphasis.—In presenting the foregoing description of the symptomatology, sufficient emphasis of certain conditions seemed impossible without interrupting and confusing the connected clinical history of each phase of the disease; hence, I shall now endeavor to cover the deficiencies to which I refer.

Headache is so constant in its presence during the first week of the disease that it was found in 127 of 128 patients who were of sufficient age to express suffering. Sometimes it is exceedingly severe, assuming a neuralgic character, and it may continue through the whole course of the disease.

The state of the mind and senses varies with the different forms of the disease, from listlessness of manner and simple wandering of mind with a blank, dejected expression of countenance, to the wildest delirium. A very common impression with the patient is that he is away from home and exposed to personal injury; thus influenced, he jumps out of bed if not restrained, and makes for the door. Delirium is equally common in children, but of milder form than in adults. Of 23 cases of the malignant form of the disease terminating in recovery it was present in 21; and of 11 fatal cases it was distinctly marked in 10, the exceptional case passing down to death without a cloud to obscure its approach. Some-

times it is of long duration, continuing for three weeks, and it may present any grade or character. In other cases there may be a sudden outbreak of mental disturbance during the period of convalescence. In one such case after the patient had proceeded so far on the road to health as to be able to go out of doors for several days, he was suddenly overcome with illusions which continued for a few days and then as suddenly disappeared, leaving no impress or mark behind.

Dulness of hearing is so complete in some cases that in order to arouse the patient he must be spoken to at the highest pitch of the voice. In a few instances the reverse of dulness exists, and the sense may be so acute that the slightest noise attracts attention, even the light step of the nurse across the floor, and unless there is perfect stillness in the room the patient is painfully discomforted.

Prostration of muscular strength is such a constant condition from the beginning to the close of the disease—such a fair measure in forming the prognosis—that its importance cannot be too strongly emphasized. Even during the formative stage, and before the patient takes to his bed, his gait is tottering, and if he attempt any manual labor he is soon fatigued. In the *mild* form when he is placed in a chair in order that his bed may be made up and aired, he soon tires and is impatient to lie down. In the *intermediate* form he must have assistance to hold up his head for a drink of water. In the *malignant* form there is utter prostration. An increase of the strength is the sure harbinger of convalescence. In the so-called "walking cases," loss of muscular strength is the most that is complained of.

Accidents and Sequelæ.—The most fearful of the accidental inflammations is peritonitis, the result of perforation of the bowels, the symptoms peculiar to which are so well known that it is unnecessary here to say more than that the accident occurs, usually, in the third or fourth week—in rare instances during convalescence—and is announced, in the majority of cases, by the sudden supervention of acute pain in the abdomen, accompanied with either a pronounced and severe chill or prolonged feeling of chilliness, with cool, clammy skin; acid eructations and vomiting; exquisite tenderness of the abdomen on pressure; great prostration of muscular strength; rapid, feeble pulse; and, after recovery from shock, abrupt rise in temperature.

I have seen in five instances all the symptoms which announce and follow perforation of the bowels, yet the patients recovered; so that I am led to believe the accident is not necessarily fatal. Four of the five cases to which I refer occurred in males, all, save one, over thirty years of age.

The safety of pregnancy seems to be but little influenced or endangered by the disease, for in all my ex-

perience I have not met with a half dozen abortions or miscarriages which could be charged to its presence. And there is good ground, I think, for belief that the pregnant state affords some immunity from the disease.

Among the sequelæ, I have seen frequent examples of swelled leg and thigh, like that which occurs in parturient women. This has been first noticed during convalescence. In one such case the swelling came on before the patient was able to quit his bed for the whole day; and in another case, at the opposite extreme, it was not noticed until during the third week after recovery from the fever. In some cases of this complication, especially those which have developed early in convalescence, the swelling is accompanied with pain and tenderness; but ordinarily with the accident there is no complaint other than of a feeling of stiffness and slight lameness. I have never seen a leg thus affected go back to its normal size and proportions.

Special Memoranda.—*Season.* The autumnal and winter months, according to my observations, give the largest number of cases.

Age. A large majority of cases occur between the ages of fifteen and thirty years; yet I have seen the disease in an infant of eighteen months—the mother sick at the time with the same disease—and, at the other extreme, repeatedly in subjects over sixty years of age.

Sex. The disease more frequently attacks males than females.

Race. The disease is probably less frequently met with in the negro than in the white race.

Immunity in Certain Localities.—In an early part of this paper, when referring to the wide diffusion of the disease, I mentioned the fact that in certain places it had rarely been met with, and never witnessed in endemic or epidemic form. Chattanooga is one of these remarkably favored places where enteric or typhoid fever does not prevail, notwithstanding the city has a population of 60,000, and is embarrassed by very serious sanitary defects such as are common to all new and rapidly growing cities, namely, insufficient sewerage, many miles of unpaved streets and alleys, and thousands of open cesspools in the form of the old-fashioned privy vault.

Dr. P. D. Sims, a member of the State Board of Health, who has been in active general practice for more than thirty years in that city, and is a most competent observer, says that in all of his experience in Chattanooga he has seen but three or four cases of typhoid fever. Like testimony is furnished by Dr. J. H. Van Deman, who, until the last three or four years, had been engaged in general practice since 1865, or from the close of the war, when he left the army. The observations of Drs. Sims and Van Deman have been confirmed by a score or more of later witnesses who from time to time came to the city.

Chattanooga is situated in the great Moccasin Bend of the Tennessee River, at the foot of Lookout Mountain, with an altitude of 650 feet above sea-level, and surrounded by high hills and mountain ranges that rise above the city from 600 to 1650 feet. The prevailing winds from March until December are either from the southwest—sweeping the top of Lookout Mountain, whose base is but three miles distant from the centre of the city—or from due west, when they come laden with freshness and health from the Raccoon Range, but four miles away, which is 1400 feet above the level of the city. In winter the prevailing currents come from Walden's Ridge, six miles to the north, which walls the valley on that side. In the undulating cove in which Chattanooga stands, with her "seven hills," like the Eternal City, she is sheltered on all sides; possessing a stable, genial climate, blessed with good general health at all seasons, and adding every year thousands to her thriving, busy population.

The United States Signal Service report from Chattanooga Station for ten successive years shows the temperature to be as follows:

Mean Temperature.

For the Year.	For Winter. Dec, Jan., Feb.	For Summer. June, July, Aug.
1879. 60.7°	44.5°	76.4°
1880. 60.3°	45.7°	76.2°
1881. 60.8°	42.6°	79.0°
1882. 60.3°	44.7°	74.9°
1883. 60.8°	45.7°	76.9°
1884. 59.6°	42.0°	74.2°
1885. 57.7°	39.2°	76.4°
1886. 57.3°	36.6°	73.9°
1887. 60.1°	43.6°	76.2°
1888. 59.1°	43.2°	76.2°
1889. 60.4°	47.2°	75.1°

The total rainfall for the same period was as follows:

Total Rainfall.

For the Year.	For Winter. Dec, Jan., Feb.	For Summer. June, July, Aug.
1879. 4.34 inches.	7.60 inches.	8.88 inches.
1880. 5.65 "	4.23 "	3.61 "
1881. 5.8 "	6.57 "	3.43 "
1882. 5.16 "	8.20 "	4.71 "
1883. 4.16 "	5.49 "	3.21 "
1884. 5.15 "	7.16 "	5.51 "
1885. 4.72 "	5.13 "	5.00 "
1886. 4.88 "	4.38 "	4.88 "
1887. 4.26 "	6.07 "	3.54 "
1888. 4.57 "	4.57 "	3.57 "
1889. 4.11 "	3.62 "	3.75 "

During the last three winters, or since my residence in Chattanooga, I have not seen snow on the ground.

The Annual Death-rate.—In ordinary years the death-rate does not exceed twelve per thousand per annum, including both races; and if the entire population were white, it would not, probably, exceed ten per thousand.

Conclusion.—Diphtheria is also an unknown disease in Chattanooga, and the same is nearly true of scarlet fever. No doubt that now and then examples of all three of these diseases have been met, brought in the persons and baggage of visitors; but the seed, when imported, uniformly failed to multiply.

The miasmatic remittent fever met with in Chattanooga sometimes assumes grave character, and then often presents the so-called "typhoid state;" but its clinical history in every essential particular is wholly unlike enteric or typhoid fever. Since taking up my residence in the city, I have had good opportunity to observe the changes in the blood in malarial cases, and am entirely convinced of the value of Laveran's researches in deciding the difference between malaria and enteric or typhoid fever. And here I desire to acknowledge my indebtedness to our own countrymen, Councilman and Osler, for their distinguished labors in the same field. Again and again have I been able, easily and quickly, to clear up the diagnosis by a microscopical examination of the blood in cases of doubt; for, in the language of Dr. Osler, "the characteristic changes in malaria are as distinctly determined in the blood as are those of tuberculosis of the lungs in the sputa."

CATALPA SPECIOSA (WARDER).¹

By J. SCHNECK, M.D.,
OF MT. CARMEL, ILL.

The genus *Catalpa* is represented in North America by two beautiful trees: first, *Catalpa speciosa*, Warder, which grows in low, rich bottom lands along the rivers of Southern Indiana, Southern Illinois, Tennessee, Missouri, and Arkansas; second, *Catalpa bignonioides*, Walter, which is more southern in its habitat, and is found in Georgia, Alabama, and the Carolinas. This is a smaller and more spreading tree than the former. Until the year 1853 botanists regarded them as of the same species. It is important to bear this fact in mind, as authors who write of the tree as seen in the Eastern and Southern States refer to *C. bignonioides*, while those whose observations are made in the Middle or Central States refer to *C. speciosa*. The latter is the species considered in this paper.

They are generally regarded as the same species by the laity, and are known as the patalfa, catalpa, Indian bean, catawba, and cigar tree.

The genus belongs to the *bignoniaceæ*, which is a large order of, chiefly tropical, American plants. They are especially noteworthy for the beauty of the flowers of many of the species. The wood, bark, and leaves of *C. speciosa* emit a foetid odor when handled or burnt; this unpleasant odor is not shared by the flowers, which are pleasantly fragrant.

¹ Read before the Illinois State Medical Society, May, 1890.

From earliest childhood I had been taught that the tree was poisonous; and this view is shared by the people generally in the vicinity where it grows. On consulting early botanical literature I find this belief has existed from our first acquaintance with the tree. F. A. I. Waugenheim, a German forester, who served in the British army during the Revolutionary war, published, in 1787, *Notes on American Forest Trees*. Of *catalpa* he says:

"The white inhabitants in America affirm that the negroes in the Southern States are in possession of a secret method by which they can prepare, from the roots of this tree, a slow, but always most serious, poison. The inhabitants of Carolina, Virginia, and Maryland are so assured of it that the *catalpa* trees are extirpated in the vicinity of all the habitations and plantations; and that a law passes sentence of death upon the negro who secretly plants or cultivates the tree."

Ludgi Castiglioni, who travelled in this country from 1785 to 1787, published an account of his journey, in which he refers to the same prejudice. He says:

"The *catalpa* trees were banished from the lawns and gardens in Pennsylvania when the rumor was abroad

that the negro slaves made use of them to poison their comrades."

He then discredits its poisonous properties, but says: "A decoction of the wood provokes vomiting, but it produces no other bad effects on the system."

Kämpfer and Thunberg state that, in Japan, the pods of a closely allied species are used to relieve persons suffering from asthma and bronchitis, and that a poultice made of the leaves is valuable in relieving the severe pains of neuralgia. In his inaugural thesis to the University of Pennsylvania, 1803, Dr. Robert Holmes refers to a popular belief in its prophylactic properties in warding off malarial and contagious diseases.

In the following experiments and applications I have used a tincture, prepared by myself, from the inner or live bark of the root and body of the tree. It was made by the old, or maceration, method, using an ounce of the fresh bark to make an ounce of the tincture. The experiments were made upon my friend Mr. G. B. Davidson, a man of excellent mental attainments, and myself. We were both then nearly thirty years old, and in excellent health.

RECORD OF EXPERIMENTS ON DAVIDSON.

Date.	Temp.	PULSE.		Remarks.
		Sitting.	Standing.	
1876				
Mar. 14				
3 P. M.	.....	70	...	Took one ounce of the tincture.
4 "	.....	70	...	Could feel no effects of the drug; took one ounce of tincture.
Mar. 22				
12 M.	.....	76	...	Ate a hearty meal.
1½ P. M.	101½	76	...	Took one ounce of the tincture.
2½ "	100	72	...	No effect from the drug; took one ounce of the tincture.
3½ "	98½	72	...	" " " " " "
5½ "	99	78	...	" " " " " "
6½ "	98	72	...	No effect from the drug; ate a hearty supper.
8 "	99½	78	...	Took two ounces of the tincture.
9 "	98½	69	...	No effect from the drug; took two ounces of the tincture.
11 "	99	66	...	Nausea, and the pulse weak; nausea during remainder of the night, and the following morning two large semi-solid stools.
Mar. 25				
8½ A. M.	98½	72	...	Took two ounces of the tincture.
9 "	98	72	...	No effect from drug; took two ounces of tincture.
9½ "	98½	68	78	" " " " " "
10 "	98½	66	72	Pulse irregular; slight nausea.
10½ "	98½	66	78	Pulse irregular; took two ounces of the tincture.
11 "	98	68	78	" " " " " "
11½ "	98½	68	76	Pulse irregular and weak.
12 M.	98½	66	80	Pulse irregular; had several copious stools during next twelve hours, semi-solid and dark color.
Mar. 27				
1 P. M.	98½	94	103	Ate a full meal at twelve o'clock, then walked nearly a mile.
2 "	98½	87	94	Read almost constantly between the time of making the notes.
3 "	99	87	92	These observations are made as a comparison with the foregoing.
4 "	98½	84	90	

RECORD OF EXPERIMENTS ON SCHNECK.

Date.	Temp.	PULSE.		Remarks.
		Sitting.	Standing.	
Mar. 22				
12 M.	.....	...	...	Ate an ordinary meal.
1¼ P. M.	101¼	78	...	Took one ounce of the <i>catalpa</i> tincture.
2½ "	98½	66	...	Slight burning sensation in the stomach; took one ounce of tincture.
3½ "	98½	60	...	" " " " " "
5½ "	99½	66	...	Burning sensation in the stomach less; have taken severe exercise since last dose; took one ounce of tincture.
6½ "	98½	72	...	Burning sensation in stomach almost stopped; ate hearty supper.
8 "	99	72	...	Felt no effect of the drug; took two ounces of tincture.
9 "	98½	72	...	" " " " " "
10 "	98½	72	...	" " " " " "
Mar. 25				
7 A. M.	.....	...	...	Had a copious semi-solid bilious stool.
8½ "	98½	75	...	Took two ounces of tincture.
9 "	98½	70	...	Felt no effects; took two ounces of the tincture.
9½ "	98½	66	84	" " " " " "
10 "	99	68	72	Decided nausea; pulse weak.
10½ "	97	66	78	Nausea less; pulse weak, dropping two or three beats per minute; took two ounces of the tincture.
11 "	96½	62	73	Nausea slight; took two ounces of the tincture.
11½ "	96½	63	78	" " " " " "
12 M.	97½	63	78	Decided nausea; no desire for food.
To compare with the above, I made the following observations:				
Mar. 27				
1 P. M.	98	74	81	Had taken a regular meal at 12 M.
2 "	99	78	84	
3 "	99	70	72	
4 "	98½	70	72	

From the above experiments we may deduce the following:

1. That with drachm doses of the tincture unless continued for a considerable time the system is but slightly affected.

2. That if taken in large enough doses it will slow the heart-beats, weaken its action, and finally produce an intermittent pulse.

3. That it acts on the alimentary secretions, producing a mild cholagogue, cathartic effect.

4. That in sufficiently large doses it produces nausea, and probably, in still larger doses, vomiting. It is probable that in this way it acts beneficially in asthma and bronchitis.

5. That by its sedative action on the heart it acts as an antipyretic.

In its clinical application I have found it most beneficial in those cases of pneumonia where the secretions of the alimentary canal were inactive and in which there was also a rapid and full pulse. It reduces the pulse-rate and tension, and increases the biliary secretion. Two drachms of the tincture should be given every one to three hours.

During the past winter I have used it often in cases of epidemic influenza with high fever, and especially where the inflammation extended into the frontal sinuses. In all of these acute cases I have never ventured to continue the remedy after the first two or three days, and have given it for this period only in sthenic cases. I have thought it best to feel my way carefully in using a new remedy whose principal action is on an organ so vitally important as the heart.

Mr. E. O. Rau has made an imperfect chemical analysis of the seeds; he obtained from them tannin and a bitter crystalline principle.¹ Mr. F. K. Brown, by a more thorough analysis of the seed, found a resin, tannin, sugar, a fixed oil, and two undetermined crystalline bodies.² It is reasonable to suspect that the medicinal qualities reside in the crystalline principles mentioned in the above analyses. It remains for chemists to tell us in which part of the plant they are most abundant, and, if possible, to isolate them, so that they may be used for further and more definite experiments. I present these notes and conclusions as the results of careful observations, and hope the medical profession will give the drug a thorough trial.

CLINICAL MEMORANDA.

PÆDIATRIC.

A Case of Imperforate Anus in which the Fæces were Passed through the Penis, and later through the Umbilicus Autopsy.—This rather remarkable case occurred in the

practice of Dr. C. A. Munn, of Kingston, N. Y. I first saw it when the child was three weeks old.

Dr. Munn was called on the evening of February 23d to attend Mrs. S., aged twenty-four years, a primipara, who was in labor at term. The woman was delivered in a few hours of a male child weighing about six pounds. Upon examination the infant was found to be well formed with the following exceptions: It had an imperforate anus, or, more correctly, there was complete absence of an anus or anything resembling one. The skin was perfectly smooth from the end of the coccyx to the scrotum, and there was no raphé. On examination with the finger the parts felt firm and solid, and it was impossible to push the end of the finger even a short distance into the lower end of the bowel. There was never any bulging present, as is the case when the rectum becomes distended with fæces. The child urinated naturally, and also passed its fæces through the penis.

This continued for about three weeks when the nurse stated that it passed its urine and fæces from the umbilicus. It lived to the age of five weeks, and during the last two weeks of life passed the greater part of both urine and fæces from the umbilicus, although at times urine would pass through the urethra. The discharge from the umbilicus was not constant, but took place at regular intervals.

In addition to this malformation the child presented other deformities. The bones of the right forearm were rudimentary, being only about one and one-half inches in length, and very small. The right hand was not deformed, though strongly flexed. The bones of the right leg presented a similar peculiarity; they were about the same length, and the foot was attached in much the same manner as the hand described above. The foot also turned inward, and, in truth, would be termed club-foot if the bones of the leg had been of the usual length.

The mother of this child was a quick-tempered hysterical woman, and during pregnancy had had several hysterical attacks, one of which I witnessed. Her husband was somewhat dissipated, and whenever he was under the influence of liquor she would become excited, throw herself on the floor, tear her hair, and cry until she was exhausted. Whether this had anything to do with the deformity of the child it is, of course, impossible to say.

Autopsy, twelve hours after death, by Drs. C. A. Munn and J. Chambers, assisted by the writer. Rigor mortis absent. Great emaciation. Livid discoloration of abdomen, which was intensely swollen. Intestines distended with gas. Lungs, liver, and spleen not examined. Left kidney much smaller than right, both markedly nodular. The cavity of the pelvis was greatly contracted, the tuberosities of the ischia approaching each other very closely. The anal aperture was wholly wanting. There was entire absence of a sphincter. The genital organs were normal, the penis being somewhat diminutive. The rectum terminated in a *cul-de-sac*, and at its lower extremity a fistulous communication with the bladder was found; a probe passing readily from the one to the other. The bladder was imperfectly developed and retained the characteristics of early foetal life. It consisted practically of a tubular sac, which was continuous with the urachus. The latter was still pervious, and thus allowed the urine and fæces to escape at the umbilicus.

¹ American Journal of Pharmacy, vol. xiii. p. 204.

² Ibid., 1887, p. 230.

The late Professor S. D. Gross¹ writes of this condition as follows: "The rectum, instead of terminating at the anus, occasionally opens by a narrow canal into the urinary passages, generally at the posterior part of the urethra, or at the *bas-fond* of the bladder a short distance below the insertion of the ureter; the former mode of communication being the more frequent. The malformation is almost peculiar to males, and generally proves fatal within a few days after birth, on account of the small size of the recto-vesical outlet not allowing of a sufficiently free discharge of fecal matter. To this rule, however, occasionally an exception occurs. Thus in a case which I attended with Dr. Kempf, and in which I made a very deep incision without reaching the bowel, the child survived six weeks, passing daily a little fecal matter by the urethra."

In his description of the development of the urinary bladder, etc., Dalton² says: "This obliteration of the cavity of the allantois commences at its external portion and gradually extends inward toward the point of its emergence from the abdomen. The hollow tube, or duct, which connects the cavity of the allantois with the posterior part of the intestine, is accordingly converted, as the process of obliteration proceeds, into a solid rounded cord. This cord is termed the *urachus*. After the walls of the abdomen have come in contact, and united with each other at the umbilicus, that portion of the above duct, which is left outside the abdominal cavity, forms a part of the umbilical cord, and remains connected with the umbilical arteries and vein. That portion, on the contrary, which is included in the abdomen, *does not close completely*, but remains as a pointed fusiform sac, terminating near the umbilicus in the solid cord of the urachus, and still communicating at its base with the lower extremity of the intestinal canal. This fusiform sac becomes the *urinary bladder*; and in the fœtus at term the bladder is still conical in form, its pointed extremity being attached, by means of the urachus, to the internal surface of the abdominal walls at the situation of the umbilicus. Afterward, the bladder loses this conical form, and its fundus in the adult becomes rounded and bulging. The urinary bladder, as it appears from the above description, at first communicates freely with the intestinal cavity. The intestine, in fact, terminates, at this time, in a wide passage or *cloaca*, at its lower extremity, which serves as a common outlet for the urinary and intestinal passages. Subsequently, however, a horizontal partition makes its appearance just above the point of junction between the bladder and rectum, and grows downward and forward in such a manner as to divide the above-mentioned cloaca into two parallel and unequal passages. The anterior or smaller of these passages becomes the urethra, the posterior or larger becomes the rectum; and the lower edge of the septum between them becomes finally united with the skin, forming, at its most superficial part, a tolerably wide band of integument, the *perineum*, which intervenes between the anus and the external portion of the urethra."

This case seems to possess some peculiar features. Imperforate anus with a fistulous opening into the bladder is described in all the standard works on surgery.

Stercoraceous and urinary fistulæ at the umbilicus are also alluded to, although they are extremely rare. But in this case both conditions were present. Furthermore, in fecal fistula at the navel the anatomical arrangement is different. It is generally found to be dependent upon persistence of Meckel's diverticulum,¹ whereby the feces pass directly from the small intestine to the opening at the navel; but in this case, as the autopsy showed, the feces passed from the rectum through a fistulous opening into the bladder, and from thence, for the first three weeks, passed out through the penis. Afterward both urine and feces, following the path of least resistance, made their exit through the pervious urachus at the umbilicus.

C. L. DODGE, M.D.

KINGSTON, N. Y.

MEDICAL PROGRESS.

Strophanthine.—DR. ROTHZIEGEL communicates some important observations on strophanthine (*Internationale klinische Rundschau*, May 19, 1890) of which the following is a summary:

1. The effect of strophanthine on the circulatory system is marked, the pulse becoming much stronger and more regular. The effect on the force of the pulse is noticeable in from five to ten minutes after the ingestion of a single dose. The influence on the rhythm is not apparent until the drug has been administered for several successive days.

2. The effects on the symptoms of valvular lesions are particularly well marked, both dyspnoea and palpitation being diminished, the former usually several days before the latter.

3. In cases of renal insufficiency due to cardiac weakness, strophanthine, after it has been given for some days, increases the secretion of urine; but as a rule the increase is not so great as after the administration of digitalis or tincture of strophanthus. This effect is apparently wholly due to increased blood-pressure and not to any direct effect upon the kidneys.

4. Gastric disturbances even after prolonged use of solutions of strophanthine are very exceptional, and they can be avoided by administering the drug in capsules. On the other hand, it often causes an increase in the appetite. Strophanthine has no effect on the functions of the intestines, nor on the sweat-glands.

5. The drug has no direct influence upon the nervous system.

6. There is no danger of cumulative effects, and it can be given for long periods without fear.

7. In heart-failure the subcutaneous injection of $\frac{1}{30}$ grain of strophanthine in solution is immediately followed by increase in cardiac power, and no local irritation follows the injection if done with antiseptic precautions.

8. As a rule the tincture of strophanthus is preferable to strophanthine; but there are cases in which neither the tincture of strophanthus nor of digitalis is well borne, and in such strophanthine is a valuable substitute.

9. The indication for the employment of strophanthine is cardiac weakness, whether due to valvular insuffi-

¹ System of Surgery, vol. ii. p. 657.

² Treatise on Human Physiology, p. 667.

¹ For a full account of this structure, and the relation it bears to the vitelline duct, see article on "Imperforate Ileum," by Sutton, American Journal of the Medical Sciences, November, 1889.

ciency with or without disease of the myocardium, or to organic disease of the heart-muscle alone.

Rothziegel gives from $\frac{1}{4}$ to $\frac{1}{8}$ grain daily, in divided doses.

The Treatment of Endometritis by Curetting.—At a recent meeting of the Surgical Society of Paris, M. BOUILLY read a paper upon the treatment of endometritis by curetting (*Therapeutic Gazette*, May 15, 1890). He has performed the operation in 81 cases of endometritis, in 69 of which the results were carefully noted. The majority of the cases were uncomplicated, though in a few there was slight inflammation of the adnexa. He does not consider the operation advisable in cases complicated with laceration of the cervix, with ectropion, or with uterine fibromata. In most of his cases the operation was not performed until other therapeutic measures had failed. The symptoms in his cases were hæmorrhage during or between the menstrual periods, more or less abundant mucous or muco-purulent discharge, and irregular pains.

All the operations were performed during chloroform anæsthesia. The cervix was previously dilated with laminaria tents made aseptic with iodoform. The tents were inserted on two successive days; on the third the os was sufficiently dilated for the easy performance of the operation. Antiseptic precautions were rigidly enforced, and sufficient force to remove the entire uterine mucous membrane was used; the *débris* being removed with a swab. At the termination of the operation glycerin and creasote (2:1) was injected into the uterine cavity in cases of mucous endometritis; zinc chloride solution (1:10) if the disease was hæmorrhagic.

In the author's experience the operation has never been followed by complications, and in only four instances there was slight tenderness on each side of the uterus for a few days.

Of the 69 cases, 39 were cured; of the 30 cases remaining, 15 were improved and 15 were uninfluenced.

Pylorotomy.—SIR WILLIAM STOKES reports a case of pylorotomy for obstruction from pyloric cancer (*British Medical Journal*, May 3, 1890), and concludes his paper with the following propositions:

1. The recognition of the disease should, if possible, be made before any marked emaciation and weakness supervene.
2. In all doubtful cases exploratory measures should be adopted with the view of (a) forming a just estimate of the nature of the disease, (b) of determining the existence or non-existence of adhesions, or (c) the presence or absence of much glandular infiltration.
3. Washing out or irrigation of the stomach previously is a desirable antiseptic precaution, and can be easily carried out without exhausting the patient.
4. The protracted nature of the operation, as usually performed, unquestionably tends to promote shock and ultimate collapse.
5. With the view of shortening the operation it is desirable to determine what is an effectual and, at the same time, speedy method of inserting sutures.

Upon the last two propositions the case reported by TUHOLSKE, in *THE MEDICAL NEWS* of May 10th, has an important bearing.

Gurjun Oil as an Expectorant.—DR. WILLIAM MURRELL for a time used copaiba as an expectorant in chronic bronchitis, but though it was efficient, the frequency with which an eruption was produced led him to seek a substitute. He has finally adopted gurjun oil, which was at one time used to adulterate copaiba. Gurjun balsam, or "wood oil," is a balsamic exudation obtained by incision and the application of heat, from the trunk of an East Indian tree. It is a transparent liquid of the consistency of olive oil, of an opaque, dingy, greenish-gray color as seen by reflected light, and having an aromatic odor and taste not unlike that of copaiba, but without its acidity. He gave it first in doses of a drachm, and then of two drachms, three times a day, in the form of a mixture with liquor potassæ, spirit of nitrous ether, mucilage of acacia, and cinnamon water. After a time he gave it mixed with extract of malt—two drachms of the balsam to one ounce of the extract—three times a day, and this was taken without difficulty. The chronic bronchitics—many of whom had previously taken copaiba—reported that it acted admirably as an expectorant, "clearing the chest" and easing the cough. In several cases he gave in addition tincture of jaborandi or nitrate of pilocarpine at bedtime, so as to produce profuse sweating, but no eruption resulted. It seems to him that gurjun oil has all the advantages of copaiba as an expectorant, without the grave disadvantage of exciting an eruption. It has been recommended as a remedy for gonorrhœa and gleet, but he has had no experience with its use in this direction.—*Lancet*, May 3, 1890.

The Extirpation of Mammary Carcinoma.—DR. LEWIS S. PILCHER (*Brooklyn Medical Journal*, April, 1890), in discussing operations for the removal of mammary cancer, says that the researches of Heidenhain into the causes of local relapse of cancer after amputation of the breast seem to be of the greatest importance, and particularly his demonstration that in two-thirds of all cases of mammary cancer numerous cancerous deposits are to be found in the lymphatics which pass through the layers of retro-mammary adipose tissue to the pectoral fascia beneath, so that though the visible tumor may be freely movable over this fascia, nevertheless cancerous elements may be already present in the lymphatics of the fascia. These lymphatics accompany the bloodvessels which penetrate the muscle and thus become the channels of infection. Security from recurrence cannot, therefore, be obtained even in those cases in which the mammary growth is still apparently limited to the gland, except by taking away with it both the underlying pectoral fascia and a thick layer of the muscular substance itself. The practical lesson, corroborated by all the experience of the past in the almost certain recurrence after extirpation, is that no operation for the removal of cancer of the breast can be considered radical and trustworthy which does not combine free ablation of the breast and its overlying integument, with entire cleaning out of the glands and connective tissue of the axilla, and removal of the pectoral fascia and superficial layer of the portion of the pectoral muscle lying underneath the gland. Dr. Pilcher is ready to accept also, as a working hypothesis for the present, the suggestion as to the complete extirpation of the whole pectoral muscle when any part of it has become involved.

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INTESTINAL ANTISEPSIS.

THE subject of intestinal antiseptics is not new to the readers of this journal, nor, we trust, to the profession in general. Its importance, however, is certainly not fully appreciated, if one may judge from the absence of all reference to it in recent discussions on the disease—typhoid fever—in which it is most surely indicated. This would be pardonable if intestinal antiseptics, instead of being at the command of every practitioner, were an ideal to be attained by the therapeutics of the future.

The literature on this important subject is mostly of foreign birth or extraction, and the leaders of medical thought in this country, with few exceptions, seem indisposed to admit what is in Europe generally regarded as an accomplished fact.

No one can deny that the intestine is a species of laboratory in which are manufactured poisons of the most virulent nature, and that the chief barrier against their fatal invasion of the general circulation is the liver. This barrier may, however, be forced, and this happens when the liver is overcome by an excess of leucomaines, or, on account of functional disorder—*hepatic inadequacy*, so to speak—is unable to dispose of a normal invoice of these products.

These facts are no sooner stated than acknowledged; indeed they are property common to the

layman and the physician. The association between such signs of systemic poisoning as ill-humor, hypochondria, and constipation, is proverbial, and no one has been more keenly appreciative of the fact than Voltaire, who terminates an admirable description of the good nature and benevolence of those whose bowels are regular with the statement that a refusal from the mouth of such a person is more gracious than an assent from one who is constipated.

In a recent article on the treatment of diarrhoea and constipation by Dujardin-Beaumetz (*Bulletin Générale de Thérapeutique*, April 15, 1890), the importance of intestinal antiseptics in both these conditions is insisted upon. The fact is not generally appreciated that purgation and antiseptics are, to some extent, interchangeable terms, and that the relief which follows the employment of a cathartic is not so much due to the mechanical effect of "unloading the bowels" as to the expulsion of substances which are slowly poisoning the system. These substances not only act in the manner just indicated, but through their irritating effect on the intestine they tend to keep up a diarrhoea which, in its onset, may have been highly conservative. From these facts may be explained the curative effect of a purge in the early stages of some forms of diarrhoea. When, however, a catarrhal condition is fairly established and occupies a considerable portion of the intestinal tract, the indications are not fully met by cathartics. Under such circumstances admirable results are often obtained by drugs whose favorable action can only be explained by intestinal antiseptics. Among such are thymol, naphthol and salicylate of bismuth. There is none better than the first mentioned, which is perfectly innocuous in large doses and possesses an antiseptic power four times greater than that of carbolic acid. Its value as an antiseptic seems to have been more fully recognized in Italy than elsewhere, and has been endorsed by Martini, Bufalini, Testi and others. In our opinion it is, when properly administered and in suitable doses, *facile princeps* among intestinal antiseptics. Salicylate of bismuth is also an admirable remedy of this sort, and is the one most approved by Dujardin-Beaumetz in the article mentioned. He usually administers it in capsules in combination with magnesia, sodium bicarbonate, prepared chalk, phosphate of lime, beta-naphthol, or charcoal.

It is not for want of suitable drugs that intestinal

antisepsis is not more systematically carried out. The difficulty is that the indications for their employment are not generally recognized. Systematic therapeutics of any description is the outcome of systematic diagnosis, and the latter, so far as gastro-intestinal affections are concerned, is of very recent date.

There are, as Dujardin-Beaumetz points out, at least three distinct varieties of auto-intoxication proceeding from the gastro-intestinal tract. First, there are the various symptoms, too numerous to be here detailed, dependent upon habitual constipation. Secondly, a more acute condition, of which the chief symptoms are a coated tongue, loss of appetite, and sometimes fever. This is the *embarras gastrique* of the French and is caused by the ingestion of improper food, or of "toxines" contained in the atmosphere. The latter statement is based on the fact that the symptoms referred to often arise after a prolonged stay in a poorly ventilated and overcrowded apartment, or in a dissecting-room. The third variety is accompanied with vomiting, and is generally known in this country as acute indigestion. It is significant of more acute poisoning or of a more susceptible organism, and consequently is more frequently observed in children.

The treatment of these different forms of poisoning, whether it be exclusively dietetic or partly medicinal, is fundamentally antiseptic, and the general recognition of this fact will alone serve to bring into general use a line of treatment which is now habitually followed by a minority.

REVIEWS.

THE PULSE. By W. H. BROADBENT, M.D. Illustrated with fifty-nine sphygmographic tracings. 12mo., pp. 312. Philadelphia: Lea Brothers & Co.

THE most striking features of this compact little book, which embodies, with additions, the Croonian Lectures for 1887, are the thoroughly practical manner in which the author treats his subject and the unusual ability he has shown in making every page interesting.

Opening with a brief historical sketch, chapters follow upon the mechanism of the pulse, the proper mode of feeling the pulse, heart-sounds in relation to the pulse, abnormalities, and the pulse in various conditions of disease.

Though the book is profusely illustrated with pulse-tracings, Dr. Broadbent writes that in much of the recent teaching on the pulse and circulation, "the constant reference to the sphygmograph has been an obstacle to the application of the newly obtained knowledge to clin-

ical work, and especially to everyday practice," and, therefore, the variations in the character of the pulse as felt by the finger receive here the first consideration. It must not be imagined from this that he underrates the value of the sphygmograph, for elsewhere he states that it has been of immense service to him.

The chapter on the pulse in fevers is particularly instructive, and should be carefully studied by those practitioners, of which there are not a few, who are guided in their prognosis and treatment chiefly by the temperature. Indeed, the whole volume is worthy of being most carefully read from beginning to end, for it is a masterly study of an important and too much neglected subject.

HOW TO EXAMINE FOR LIFE INSURANCE. By JOHN M. KEATING, M.D., President of the Association of Life Insurance Directors, etc. 8vo., pp. 211. Philadelphia: 1890.

THIS is by far the most useful book which has yet appeared on insurance examination, a subject of growing interest and importance.

Examining a candidate for insurance might, at first thought, seem to differ only slightly from much of a practitioner's routine work, but, under ordinary circumstances, when a man consults a physician he has no desire to conceal facts, while an applicant for insurance may have symptoms and weak points in his family and personal history, from which he endeavors by many means to draw the physician's attention. It is just this that makes tact and penetration on the part of the examiner of great importance. Dr. Keating in this manual offers many valuable suggestions which will be of assistance in getting at facts and "drawing out" the applicant.

Methods of physical diagnosis are also well described and illustrated by plates of the regional anatomy of the thorax.

Excellent directions for urine testing are given; heat and nitric acid being considered the most satisfactory for albumin, and fresh, carefully prepared Fehling's solution the most generally useful for sugar. With reference to transient albuminuria, Dr. Keating believes that the presence of albumin, even when not associated with other signs of disease, "renders the applicant, for the time being, uninsurable."

Not the least valuable portion of the volume is Part II., which consists of instructions issued to their examining physicians by twenty-four representative companies of this country. As the proofs of these instructions were corrected by the directors of the companies, they form the latest instructions obtainable. If for these alone, the book should be at the right hand of every physician interested in this special branch of medical science.

SOCIETY PROCEEDINGS.

FIRST ANNUAL MEETING OF THE FRENCH SOCIETY OF DERMATOLOGY AND SYPHILOGRAPHY.

Held at Paris, April 10, 1890.

PROFESSOR HARDY, of the Paris Faculty of Medicine, was elected President, after which the first paper was read by DR. HALLOPEAU, on

AN INFANTILE BULLOUS DERMATOSIS WITH INDELIBLE CICATRICES, EPIDERMIC CYSTS, AND BUCCAL MANIFESTATIONS.

This form of dermatosis, according to the author, differs in its clinical manifestations, especially in the cicatrices, from other forms. It is sometimes generalized, as was proven by cicatrices over the entire body in one case, in which it is still in active process in the mouth and on the extremities. Bullæ are observed, with citron-colored contents, which sometimes become purulent or hæmorrhagic. These bullæ begin without the slightest pain, pruritus, or febrile manifestation. The old cicatrices are confluent on the trunk, forehead, and sometimes on the extremities. The cause of this eruption is probably due to ptomaines, which are eliminated by the cutaneous glands, as the bullæ are found in situations where toxic eruptions are usually manifested. This bullous dermatosis is not confounded with the one described by Duhring and Blocq. It differs by the absence of painful sensation or pruritus. The influence of external violence in the causation of the disease, the cicatrices and the epidermic cysts, all point to a new disease.

DR. MAURIAC then read a paper on

LINGUAL HEMIATROPHY OF SYPHILITIC ORIGIN.

This he observed in a man, forty years of age, who contracted syphilis at the age of twenty-eight, and then had lesions of the pharynx and tongue, which were thought to be an ordinary syphilitic angina.

Fourteen years later the patient complained of sudden inability to pronounce certain words; next came trembling of the right hand and paralysis of that side.

When first seen by Dr. Mauriac the tongue was already asymmetrical and atrophied on the right side, with marked disturbance in the sensation. Under treatment the patient greatly improved, but the tongue remained atrophied. Soon after this the right third cranial nerve became paralyzed.

The cause of these symptoms is probably a syphiloma at the base of the brain, involving the origin of the hypoglossal and oculo-motor nerves.

DR. MOREL-LAVALLÉE presented a case which excited a discussion, on

THE DIFFICULTIES IN THE DIAGNOSIS OF TRUE CHANCRE.

In certain rare cases the syphilitic chancre has been known not to produce any glandular involvement at all, and this is especially observed in cases of gangrenous or phagedenic chancre; moreover, induration of the primary sore may be absent, especially in women, but very rarely are both of these capital symptoms absent.

This Dr. Morel-Lavallée has observed in a man forty years of age. In this case the chancre developed in two periods, the induration developing under the cicatrix. The secondary symptoms appeared at the usual time, but, without any discoverable glandular enlargement in any region of the body.

Professor Fournier has also observed a few of these exceptional cases, amongst them a patient who presented a superficial erosion, with a very slight induration, but no glandular enlargement; cicatrization took place rapidly. A few days later the cicatrix opened again;

marked induration developed, and then the secondary symptoms occurred.

Dr. Mauriac has also seen cases in which the early glandular enlargement could not be found, but later, when the induration manifested itself, glandular enlargement was present.

PROFESSOR FOURNIER then reported

A CASE OF SYPHILIDE OF THE LIP SIMULATING ERYTHEMATOUS LUPUS.

Three years ago he saw on a young woman a papulo-erythematous lesion, occupying three-fourths of the lower lip. This red plaque, somewhat elevated, with well-defined contours in front, much less so behind, was smooth and absolutely painless. This was present for eight or nine months without symptoms of syphilis. The diagnosis of erythematous lupus was made, but later an ophthalmia occurred, which Dr. Abadie recognized as parenchymatous keratitis, complicated by iritis, and which he declared to be of syphilitic origin. She was immediately placed upon energetic anti-syphilitic treatment and five weeks later was cured of both her ophthalmia and her so-called lupus.

Professor Fournier concludes: 1st. That there is a rare form of tertiary tubercular syphilide, analogous to Cazenove's erythematous lupus. 2d. That the appearance of such a syphilide is possible twenty-five years after a chancre and without previous manifestation.

DR. BURLUREAUX read a communication on the

REACTION OF SALIVA ON CALOMEL AS A MEANS OF DIAGNOSIS IN IODOFORM POISONING.

A soldier, twenty-two years of age, was admitted to the military hospital, for a generalized scarlatiniform eruption which had started on the left arm, three days after the application of an iodoform dressing. The temperature did not rise above $100\frac{1}{2}^{\circ}$ F. Three days later desquamation occurred on the arm and other regions of the body. Dr. Burlureaux first suspected scarlet fever, although no angina or albuminuria was present. The diagnosis was modified, however, after testing as follows for iodoform, as recommended by Poncet, of Lyons:

1st. The patient complaining of an iodoform taste, a piece of silver money was placed in his mouth and he immediately noticed a taste of garlic.

2d. A small amount of calomel mixed with the saliva, gave a characteristic canary yellow color, due to the formation of a mercurous iodide.

This reaction is a very delicate one, a drop of a solution of potassium iodide (1 : 4000) is sufficient, if placed on calomel, to bring out the yellow color. The patient presented these signs as long as the eruption persisted, and they disappeared progressively during the stage of desquamation.

DR. BALZER read a paper on a

CASE OF VACCINIA COMPLICATED BY GANGRENE DURING THE EARLY STAGE OF SYPHILIS.

It was observed in a woman, twenty-three years of age, who came to the hospital suffering from secondary syphilis and gonorrhœa. She was placed under energetic treatment, during which she was vaccinated. Only one inoculation "took," which, however, soon became black and extended until it involved an area the size of a silver

dollar, limited by an inflammatory induration. Notwithstanding antiseptic local treatment with iodoform, salol, etc., it was only when large doses of potassium iodide (ninety grains in the twenty-four hours) were given that the eschar separated.

A paper on

ERUPTIONS DUE TO URIC ACID INTOXICATION,

was then read by DR. QUINQUAUD, who found that when uric acid is introduced into rabbits or guinea-pigs, no eruption is produced. If, however, the same is done with dogs, eruptions of vesicles, papules, or pustules occur, and are disseminated here and there on the skin with no regularity.

He has given from four to eight grains of uric acid in the twenty-four hours to men, and observed that the most common lesion was a furuncle; small papules becoming crater-like after removal of the crust, were also observed, and more rarely erythematous spots, but never the cardinal symptoms of eczema or of any other known dermatosis.

PROFESSOR FOURNIER then read a paper entitled

INFANTILE ECTHYMA SIMULATING A SYPHILITIC CHANCERE.

This disease was seen in the gluteal region of a child, who had several other sores of an ecthymatous character, and resembling syphilitic chancres, but in the groin only very small ganglia could be found. On the inferior extremities were a few small discrete folliculites, some of which became exactly like the pseudo-chancres.

DR. DU CASTEL followed with a paper on

ATYPICAL SYPHILITIC CHANCRES,

in which he said, chancres which do not correspond to the classical type are by no means rare. M. Vidal demonstrated, in 1872, that syphilitic chancres could present themselves in the form of a soft chancre, and other varieties have been described. The variety to which Dr. Du Castel wished to call attention, might be called "multiple syphilitic chancres." The following are the chief characteristics: Multiplicity of sores; successive development taking place on different days, and in a methodical order; severe pain; small size of the lesions, which are about one-third of an inch in diameter; tendency to become deeper than ordinary chancres and to develop an indurated ring; slight sub-chancrous induration, and but little induration of the neighboring glands.

M. Mauriac said that he also had observed multiple syphilitic chancres. He has seen a patient with a chancre on the chin, another on the lip, and seven or eight on the genital organs; they did not appear simultaneously, but within a space of time varying from ten to fifteen days.

DR. DE BEURMANN then presented three wet-nurses suffering from

MAMMARY CHANCRES,

acquired from foundlings.

Professor Fournier said, that under no pretext should unknown children be given to a wet-nurse; they should be artificially fed. He gave the following example of contagion which occurred in the practice of Dr. Jacquet: A child of a few months was suffering from infantile diarrhoea; no specific manifestation could be found,

and the child was confided to a wet-nurse. A few days later the child died in consequence of the diarrhoea, and on post-mortem examination, gummata of the liver were discovered. A careful examination of the buccal cavity showed that nothing but a very light fissure of the inferior lip existed. Two gray slightly squamous spots were found near the right knee.

DR. QUINQUAUD followed with a paper on the

TREATMENT OF SYPHILIS BY CALOMEL PLASTER,

a method which this author uses to avoid the inconveniences of the other preparations of mercury. The formula recommended is:

Diachylon plaster	300 parts.
Vaporized calomel	100 "
Castor oil	30 "

made into a plaster.

The manner of using it is as follows: First thoroughly wash the surface of the skin with soap and water, then place a three-inch square of the plaster on the chosen spot. The plaster is kept in position for a week, then left off for a week, and then again put on for a week, and so on. This author has found that mercury is present in the urine during this treatment. In using a plaster not larger than that above-mentioned, there is no danger of salivation.

DR. ROLLET then read a paper entitled

THE PROBABLE NON-SPECIFIC CHARACTER OF THE GONOCOCCUS,

in which he said that studies had been made by M. Eraud, of Lyon, who arrives at the following conclusions: There exists in the normal urethral canal of man a microbe, the staphylococcus urethralis, which is capable of producing urethritis. This microbe has the same morphological characters in the newborn child and adult, and presents the same character as the microbe found in orchitis, blennorrhagia, and prostatitis; hence, we can arrive at the probable conclusion that these microbes are one and the same.

DR. ARNOZAN read a communication on the

TREATMENT OF EPITHELIOMATA ARISING IN THE SEBACEOUS GLANDS BY APPLICATIONS OF ACETIC ACID.

He has used acetic acid pure, and also diluted one-half or two-thirds, in superficial epitheliomata with great success. He has so far treated eight cases, all with satisfactory results, obtaining soft and very small cicatrices.

CORRESPONDENCE.

VIENNA.

The Treatment of Tubercular Abscesses. The German Congress for Internal Medicine.

To the Editor of THE MEDICAL NEWS,

SIR: The Easter vacation interferes with medical work in Vienna very much—the professors and assistants take vacations and the American student is puzzled to put in his time advantageously. Now, however, work has again begun.

There have been two sad accidents. One of Professor Albert's operating assistants, a young surgeon of con-

siderable talent, had examined a case of smallpox that appeared in the dispensary. A few days afterward he was taken ill with hæmorrhagic variola, and, although he had been vaccinated and all known remedies were used, he fell a victim to the disease. Within a week of this death, Docent Paltauf, assistant to the professor of medical jurisprudence, cut his hand while making a post-mortem, and in consequence had a severe attack of septicæmia. His place was filled temporarily by Dr. Handlirsch, and before Paltauf recovered this substitute had received a post-mortem wound, from which he died three days later. At least a dozen autopsies are made every morning in the general hospital, yet these are the only cases of blood-poisoning that have occurred for years.

Billroth has again made a great impression on the surgical world by an article published a few days ago. Tuberculous abscesses have long been studied and treated unsuccessfully. For the past four years Billroth has been steadily experimenting with different means of treatment till now he has reached a conclusion, which, as it is based on his enormous clinical experience, cannot fail to excite great interest. Contrary to the usual method, he cuts down upon the abscess and lays it widely open; draws off the pus and cleans out the remotest corners; follows up any fistula to its point of origin, and scrapes the lining surface of the abscess until all the so-called membrane is removed. Sometimes it is necessary to open a thigh from the popliteal space to the tuberosity, but thoroughness in regard to the fistulæ is absolutely necessary. He then waits until the bleeding has ceased, of course removing the Esmarch, if one has been used, and when the wound is glazed by the serum he fills the abscess cavity with an emulsion of 10 parts of iodoform in 100 parts of glycerin. The edges of the wound are then brought together and stitched very carefully so as to close the cavity perfectly and *without* an opening for drainage. Thoroughly antiseptic dressings are applied and left on for several days. In most cases he gets primary union and the abscess heals, the iodoform emulsion being slowly absorbed as granulation goes on. Sometimes when antiseptics has been imperfect sloughing results, but even then the abscess generally heals from the bottom without recurrence. In a few cases the results were not good, but in these the operation was not sufficiently thorough, as some of the recesses were left untouched. Strange as it may seem, iodoform poisoning has been noticed in only a few cases, and in a very slight degree.

Billroth has used the same method in tuberculous caries with equally good results, and now asks the profession to try the method. How does the iodoform act? It is known that iodoform is not a perfect antiseptic, but a most powerful stimulant of granulation. To use Billroth's words, "Iodoform exerts a great formative influence on the smaller vessels, and these soon begin to grow out and multiply in an extraordinary manner by constant production of offshoots and capillary loops. This energetic growth of the living tissue seems to rob the microbes of their nourishment; in the struggle for existence they succumb to the growing cells of the vessel walls." As granulations secrete pus only when diseased, drainage is unnecessary. When the method is used in caries the action is the same, the osteophytes in this case being stimulated.

The German physicians who devote themselves to internal medicine only, as contradistinguished from specialism, have organized a congress to which the best men in Germany, Austria, and Switzerland come annually, and also many from Italy, Russia and France. They meet every second year in Wiesbaden and the alternate years in Berlin, Leipsic, Munich, and Vienna, in rotation. This year Vienna was the place, and among the several hundred present were Leyden, Senator, Gerhardt, of Berlin, Ziemssen, His, Ziegler, Adamkiewicz, Erb, Romberg, Immerman, and many more of Europe's greatest medical authorities. There is probably no other society that has so many distinguished men among its members as this one, for membership is restricted, it seems, to the famous. Hence, of course, we looked to them with great interest. They met with Nothnagel as president, and Leyden and Curschman as vice-presidents. Every year two subjects of the greatest general interest are selected as topics for discussion at the next annual meeting, two members being appointed to open the discussion. This year the treatment of empyema and of chronic nephritis had been chosen. Immerman, of Basel, and Schede, of Hamburg, opened the discussion and were followed by Eberth, Leyden, Ziemssen, Billroth, Fürbringer, and Nothnagel. The general opinion of the society may be summed up as follows: In every case of fluid in the pleural cavity, if it becomes chronic, exploratory puncture is absolutely necessary. As soon as bacteriological examination shows the presence of pus-forming agents or pus, the fluid must be removed at once by operation. In early cases simple puncture and a drainage-tube may suffice, but resection of ribs is indicated when there is much atelectasis, in order that the size of the pleural cavity may be diminished and filled up by granulation. Billroth believes that after granulations form between the costal and pulmonary pleura their contraction may increase the capacity of the atelectatic lung. When resection is performed the ribs must be removed without opening the pleural cavity—this is easy if the bone be loosened from its periosteum. Then puncture is made and the fluid drained away under antiseptic precautions, so that microbes are excluded from the cavity. The results of resection seem to be a little better than those from simple drainage—in children the results are remarkably good from both methods. Even in cases of phthisis, operation has been followed by excellent results. After resection, massage and gymnastics are often of great advantage; approximate symmetry can be obtained even when three inches of rib have been removed, as shown by four cases.

Unna read a good paper on the physiology of the skin. The results of his experiments seem to show that covering the skin has considerable effect on temperature. A varnish of gelatin increases the transudation of fluids and has a marked effect in reducing fever, and Unna advises a trial of this in high temperature, as well as in nephritis, where we desire an excessive action of the skin. It sounds paradoxical to apply glue to the entire body for a cooling effect, but he claims that the gelatin absorbs so much water from the cutis that the function of the skin is not diminished, but rather is increased. Senator tried a similar method some years ago, but the results were not especially brilliant.

Mosler read a paper on pemphigus which was received with interest, and elicited replies from Kaposi, Neuman, and Schwimmer. Mosler has examined the fluid of the pemphigus vesicles and in every case where the proper precautions were used to get the pure fluid, no bacteria could be found. Inoculations and cultures with the fluid are also impossible. He, therefore, concludes, and Kaposi and Neuman agree with him, that pemphigus is not caused by microorganisms, but is rather a neurosis or an angio-neurosis. The clinical history lends additional evidence to this theory, and the etiology is so peculiar that no other explanation suffices. Pemphigus is not very rare in Vienna—of the 50,000 cases of skin diseases Kaposi has seen in twenty-three years, there were 210 cases of pemphigus, with a mortality of about 90 per cent. Kaposi and Neuman have had no definite success in treatment; Weber, of Halle, reports a cure from baths of permanganate of potassium, and arsenic internally.

One of the best papers read was that by Professor Adamkiewicz, of Krakow. From a number of cases in which he made thorough microscopic examination, he has established the truth of Leyden's theory that myelitis is not a result of compression of the cord—in fact, in his cases, where the pressure was greatest, there was no myelitis, the process being most intense at those places where there was no compression. He stated, further, that the nutrition of the cord is carried on by two sets of vessels, one of which entering at the anterior fissure supplies the centre of the cord, while the other entering the cord at many points on the circumference supplies the peripheral portion. In cases of anterior poliomyelitis he has found thickening of the vessels which supply the anterior horns and also infarctions in the end capillaries. In lateral sclerosis he has also found infarctions in the crossed pyramidal tracts, and on these discoveries he bases a theory of systemic origin of diseases of the cord. He thinks the degeneration of the nerve-fibres and the sclerosis are due to the microscopic infarctions which disturb the nutrition, these infarctions being caused by disturbances in the blood, probably from microorganisms and the accompanying changes in the vessel-walls. He claims to have seen the infarctions, and also in every case the concomitant changes in the endothelium of the affected vessels. Thus he builds up an ingenious theory for something hitherto unexplained.

Ziemssen, of Munich, showed two good specimens of "bullet thrombi" in the right ventricle. These thrombi are not connected with the heart-wall or valves, but lie perfectly loose in the cavity, which they nearly fill, yet they interfere but slightly with the cardiac function. They were each an inch in diameter, perfectly round and smooth. There are but six cases on record, and diagnosis *intra-vitam* is not possible. Ziemssen is a medium-sized man, rather slim, nearly bald, and what hair he has is snow-white. He has a small white moustache, waxed and twisted at the ends in military style. His eyes are small but bright and piercing, and the expression of his face is highly intellectual, yet full of kindness and even mirth. Leyden is of Herculean frame, has a very closely trimmed gray beard, heavy features, somewhat unsymmetrical, for the left side of his face seems a little contracted. When thinking there is nothing exceptional in

his appearance, but when speaking or interested his features seem aglow with the mighty intellect that moves them. A few weeks ago he celebrated the twenty-fifth anniversary of his first lecture as clinical teacher, and all his former assistants assembled to do him honor. Among them were five professors and more than twenty clinical teachers.

But to return to my subject: the most important feature of the Congress was the discussion on the treatment of chronic nephritis. Senator and Ziemssen opened the discussion, which represented the latest ideas of the highest German authorities on the subject. They divided chronic nephritis into two classes, parenchymatous and interstitial. In the former the Malpighian bodies are chiefly the seat of disease, and the trouble comes from an insufficient excretion of water, and a waste of albumin, causing dropsy and weakness; while uræmic symptoms develop much later. The interstitial form affects the urea-secreting portion of the kidney—there is hypertrophy of the connective tissue, and consequently a contraction of the vessels. The blood is not perfectly purified, and so there are disturbances in the general capillary circulation which results in cardiac hypertrophy, while the loss of albumin is slight, and dropsy is not a marked feature. Of course, in both forms we have cardiac hypertrophy from the same cause, but it is more marked in the interstitial form.

If in the treatment we could stimulate the Malpighian bodies to a more active secretion of fluids, and at the same time prevent the loss of albumin, we would have an ideal method. A mild diuretic and food containing a minimum of albumin should be given. Milk contains considerable water and hence is a mild diuretic, and experiments have proven that of all foods which keep the body in good repair milk contains the least albumin; hence in this disease it is the nearest to a perfect diet and medicine combined. On these principles the exclusive milk diet is the best treatment. Empiricism has also proven the value of a milk diet. In interstitial nephritis, of course, there is much similarity to the parenchymatous form as regards pathology, and in this the milk diet is also of the greatest value. There is an additional element, however, in the more marked retention of urea and cardiac hypertrophy, in the slighter albuminuria, and in the absence of dropsy. The greater work thrown on the heart makes a cardiac stimulant necessary here and digitalis is our most powerful help, though strophanthus is also useful.

Ziemssen warned against much medication, although the temptations are very great. He considered the main lines of therapy to be rest and proper diet, and every case of chronic nephritis should be kept as nearly at absolute rest as possible. The diet should be, as far as possible, milk alone; but it must be varied so that the patient will not become disgusted with the treatment and give up the only reliable method we have. Besides the dietetic and rest treatment, diuretics, and diaphoretics may assist, but only the second is of special value. The hot-air bath is the best method of producing diaphoresis, next to it the steam bath and hot-water bath, and when complications contraindicate these, pilocarpine is of considerable utility. When the œdema is excessive, Ziemssen punctures the swollen limbs; making four punctures every day, one in each leg and one in

each thigh. Small canulas, like those of a hypodermic syringe but perforated at the sides, are placed deep in the tissues, and retained by dressings so arranged that the fluid can escape. The tubes are left *in situ* for twelve hours. He has drawn off as much as twenty-four pints of fluid in two days, and that without any untoward symptoms. Of diuretics the potassium salts are the best, though calomel given in small doses is also good. He disapproves of drastics. In interstitial nephritis at the first indication of cardiac weakness digitalis should be given, and ice-bags to the cardiac region are sometimes of great help. When uræmia comes on the battle is generally lost, so we must prevent it by the prophylactic treatment.

It seemed to be the impression that the mortality of chronic nephritis has been diminished, and a number of permanent cures were reported, and the universal consent to the methods indicated was remarkable. The congress has now adjourned. There were Americans, Japanese, Chinese, Persians, Greeks, Turks, Russians, and French present, besides the German-speaking contingent, and a glance over the list of those attending will prove the international character of the attendance at Vienna's famous University.

NEW ORLEANS.

To the Editor of THE MEDICAL NEWS,

SIR: The medical profession here has been much interested in the investigation that has been going on at the United States Marine Hospital of New Orleans. It seems that two months ago Passed Assistant Surgeon S. T. Armstrong, who has charge of the hospital, told Passed Assistant Surgeon R. P. M. Ames, who is his assistant, to administer chloroform to a patient. Dr. Ames, who is an advocate of ether, refused to give chloroform, but said that he would give ether. Dr. Armstrong said that, as the head of the institution, he had the right to give what orders he wished, and suspended Dr. Ames, as the latter persisted in his refusal. Dr. Armstrong then wrote to Surgeon-General Hamilton and stated the particulars of the case, and his action was endorsed. Dr. Ames then filed the charges which appear below, and Surgeon-General Hamilton came to this city to investigate them. In opening the inquiry, the Surgeon-General had the charges read by the stenographer. Dr. Ames charged:

"1. That on February 26, 1890, in the operating-room, Dr. Armstrong's manner and language to me (Ames) was unbecoming an officer, a physician, and a gentleman, and this, too, in the presence of an attendant and patient.

"2. That he, unjustly and without cause, charged me on the records of the station with being guilty of gross insubordination and conduct prejudicial to good discipline.

"3 (a). That his endorsement on my letter of February 27th, reporting the death of a seaman in the custom-house office, in which chloroform had been given, is mendacious in so far as it refers to the facts contained in the letter.

"3 (b). That the statements in his letter of the 10th ultimo, charging me with being malicious and guilty of expressing unfounded libels, is equally false in every particular.

"4. That he has violated the following paragraphs

of the *Revised Regulations* of 1889: (a) He has hospital attendants performing work in his own quarters. (b) He has oppressed and maltreated persons under his command, and abused patients under his care. His conduct in this particular has been brutal and inhuman, and in consequence many patients have deserted the hospital—jumping the wall to seek relief elsewhere. This condition of affairs has brought the management of the hospital into disrepute; patients object to being sent there, and the admissions, as the result of such a reputation, have greatly fallen off. (c) He is guilty of cursing and using abusive language to attendants and patients. (d) Paragraphs 276 and 282. He ordered the prescription and diet book removed on February 22d without any authority, and it has not been officially restored, notwithstanding the expression in bureau letter of March 3d in relation thereto.

"5. That his statements in his letters to the bureau of March 4th and 20th are false, in so far as he states that there is only one bedroom-set in his quarters (there are two), and that there was nothing in the hospital that could be used for aspiring purposes. There are two aspirators, and in good order. They were then in good working order, and are now.

"6. That he has violated the contract of William J. Walsh for care of horse and ambulance after the receipt of bureau letters."

The seventh section states that Surgeon Armstrong falsely certified to certain bills, etc.

Dr. Armstrong pleaded not guilty to all of the charges, and Surgeon-General Hamilton called on Dr. Ames for witnesses. The investigation, which was a public one, lasted two days, and many witnesses were examined. Surgeon-General Hamilton stated, before leaving for Washington, that no decision would be made before his return to the North.

Dr. Charles Chassignac has been elected to the presidency of the Orleans Parish Medical Society, to succeed the late Dr. John P. Davidson.

The charitable institutions here have been so much abused by those who are able to pay a physician, that a conference is to be held by the representatives of the various institutions to take measures to remedy the evil.

Owing to the floods, there will be no meeting of the Louisiana State Medical Society this year. Their Committee on State Medicine will shortly present a petition to regulate the practice of medicine in this State, and it is hoped that a State Board of Examiners will be appointed and other measures adopted which will improve the profession.

Dr. Walter Bailey, Sr., a prominent homœopathic physician here, was run over and seriously injured on May 30th.

Dr. T. G. Richardson has gone to Washington. He resigned the position of Professor of Surgery at the Tulane University, on account of ill health, greatly to the regret of his many friends.

THE OLDEST LIVING GRADUATE OF THE UNIVERSITY OF PENNSYLVANIA.

To the Editor of THE MEDICAL NEWS,

SIR: So much has been said in the various journals about the oldest graduate of the Medical Department of

the University of Pennsylvania, that I thought it would be interesting to collect the names of several of the oldest living graduates, as far as known to me, and send them to you. They are as follows:

Enoch Fithian, Greenwich, N. J., Class of 1816.
James Kitchen, Philadelphia, Pa., Class of 1822.
E. W. Mobberly, Virginia, Class of 1824.
John Sappington, Shire's Landing, Md., Class of 1825.
William Wetherill, Lambertville, N. J., Class of 1825.
G. R. B. Horner, U. S. A., Warrenton, Va., Class of 1826.
Walter Somerville, Mitchell's Station, Va., Class of 1826.
Lewis Rodman, Philadelphia, Pa., Class of 1827.
J. Z. Coffman, Phoenixville, Pa., Class of 1827.
Fred. Fickhardt, Bethlehem, Pa., Class of 1827.
J. H. Hicks, Faison's, N. C., Class of 1827.
Hiram Corson, Conshohocken, Pa., Class of 1828.
J. H. Blackwell, Florence, S. C., Class of 1829.

Yours, truly,

JAMES TYSON, M.D.

NEWS ITEMS.

The Volkmann Monument.—It is proposed by the colleagues and friends of the late Professor Richard von Volkmann to erect a monument to his memory in Halle, the place of his long and successful labors. Dr. John S. Billings, of Washington, D.C., is prepared to receive contributions from Americans.

The William F. Jenks Memorial Prize.—The second triennial prize of four hundred and fifty dollars, under the deed of trust of Mrs. William F. Jenks, will be awarded to the author of the best essay on "The Symptomatology and Treatment of the Nervous Disorders Following the Acute Infectious Diseases of Infancy and Childhood."

The conditions annexed by the founder of this prize are, that the "prize or award must always be for some subject connected with obstetrics, or the diseases of women, or the diseases of children;" and that "the Trustees under this deed for the time being, can, in their discretion, publish the successful essay, or any paper written upon any subject for which they may offer a reward, provided the income in their hands may, in their judgment, be sufficient for that purpose, and the essay or paper be considered by them worthy of publication. If published, the distribution of said essay shall be entirely under the control of said trustees. In case they do not publish the said essay or paper it shall be the property of the College of Physicians of Philadelphia."

The prize is open for competition to the whole world, but the essay must be the production of a single person.

The essay, which must be written in the English language, or, if in a foreign language, accompanied by an English translation, should be sent to the College of Physicians of Philadelphia, Pennsylvania, U. S. A., before January 1, 1892, addressed to Louis Starr, M.D., Chairman of the William F. Jenks Prize Committee.

Each essay must be distinguished by a motto, and accompanied by a sealed envelope bearing the same motto and containing the name and address of the writer. No envelope will be opened except that which accompanies the successful essay.

The Committee will return the unsuccessful essays if reclaimed by their respective writers, or their agents, within one year.

The Committee reserves the right not to make an award if no essay submitted is considered worthy of the prize.

Resignation.—Dr. John Aulde has resigned his position as Demonstrator of Physical Diagnosis and Clinical Medicine in the Medico-Chirurgical College of Philadelphia.

A Summer Biological School.—A laboratory for biological study will be opened at Cold Spring Harbor, Long Island, during the coming summer. The station will be the one used in the winter season by the State Fishery Commission, and is the largest of the kind in the country. It is supplied with all the appliances suited to the study of aquatic life, both in fresh and salt water. Much attention will be devoted to the food-fishes and to the forms of vegetation upon which they subsist. The number of students during this, the first, year will be limited to twenty-five. A corps of lecturers under Professor Bashford, Dean of the College of the City of New York, has been secured from among volunteers from Harvard, Johns Hopkins, and other institutions and laboratories. The section on Natural History of the Brooklyn Institute will have the school in charge.

Dr. Brehmer's Successor.—Dr. Felix Wolff, of Hamburg, has been appointed successor to the celebrated late Dr. Brehmer in the management of the Sanitarium for Consumptives at Görbersdorf, Silesia. Dr. Wolff was for a long time chief assistant to Professor Curschmann, of Leipsic, and is eminently fitted for the post he is to fill.

Obituary.—Dr. J. B. P. Jaemary, one of the oldest practicing physicians in Texas, died in Victoria on April 11th. He was born in Maysville, Kentucky, in 1811, and had practised medicine in Texas for fifty-four years. At the time of his death he was the President of the Victoria Medical Society.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM MAY 27 TO JUNE 2, 1890.

By direction of the Secretary of War, so much of Par. 2, S. O. 119, A. G. O., May 21, 1890, from this office, as relates to Robert B. Benham, Captain and Assistant Surgeon, is amended to read as follows: ROBERT B. BENHAM, Captain and Assistant Surgeon, will proceed from Madison Barracks, New York, to Fort Wadsworth, New York, and report in person to the commanding officer of that post for temporary duty.

LAUDERDALE, JOHN V., Major and Surgeon (Fort Ontario, New York).—Is hereby granted leave of absence for one month, to commence on or about June 1, 1890.—Par. 4, S. O. 123, Headquarters Division of the Atlantic, New York City, May 27, 1890.

THE MEDICAL NEWS will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.

Local papers containing reports or news items should be marked. Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the NEWS should be addressed to No. 1004 Walnut Street, Philadelphia.